college ANDUNIVERSITY business

SEPTEMBER 1961

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LOBBY, COLLEGE CENTER, CENTRAL MICHIGAN UNIVERSITY, MOUNT PLEASANT (page 64)



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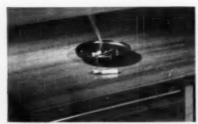


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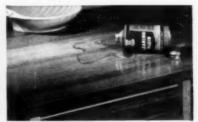
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SEPTEMBER 1961

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QUESTIONS AND ANSWERS

Delinquent Accounts

Question: We are confronted with a problem of collecting delinquent accounts from our students. What has been the experience of other institutions in the use of collection agencies to collect a delinquent account from a student who has dropped out of school? Is the income produced by such a method worth the resentment it may cause among former students? — G.W. Jr., Calif.

Answer: This question, like most which involve policy, must be decided for each institution in the light of its own philosophy and finances. The number, age and amount of the delinquent accounts also must be considered. It is my impression that most institutions have decided against using collection agencies on the theory that the amount collected, after commissions, would not be worth the bad will engendered. Business officers of a few other colleges argue that the person who owes money is already disaffected, so there is nothing to lose and everything to gain by trying apparently harsh collection methods.

My personal opinion is to reject the arguments at both extremes, but to avoid collection agencies for another reason. There is really very little that a collection agent can do that cannot be done by the college business officer. Furthermore, the college can appeal to the debtor to make payment in order to help other students complete their education, while this approach sounds artificial if it comes from an agency. A straightforward, sincere letter from the business officer explaining the need may result not only in repayment, but occasionally will even restore a noncontributing alumnus to the fold. A few successes of this sort will repay the business officer's time and effort in saved commissions as well as in satisfaction.

To be successful, any collection program must incorporate certain fundamentals: (1) permanent and enforced withholding of academic records until bills are paid; (2) provision

If you have a question on business or departmental administration that you would like to have answered, send your query to COL-LEGE and UNIVERSITY BUSINESS, 1050 Merchandise Mart, Chicago 54, Ill. for partial payments rather than insistence upon lump-sum reimbursement; (3) establishment of reasonable "payment expectation" dates; (4) automatic periodic reminders; (5) accurate, complete records.

Finally, it should never be forgotten that it is far easier to collect a current account than one that is delinquent. The best collection system is one that prevents delinquencies by prompt and drastic action the first day after an account becomes overdue. — BRUCE PARTRIDGE, vice president for business and management, University of Delaware.

Handling Subscriptions

Question: Is it a common or a not-socommon practice among colleges and universities to let a subscription agency handle library periodical renewals? What are the advantages and/or disadvantages of using this service versus: "doing it yourself"? — Sister M.J., O.S.T., Wis.

Answer: It is a common practice among colleges and universities to let a subscription agency handle periodical renewals. The library staff and the purchasing department have reviewed this problem several times at Purdue University and have jointly decided that the most economical way of handling subscriptions was to work closely with an agency allowing them to handle the periodical renewals. By working with a subscription agency it consolidates the large volume in fewer invoices. They assume some responsibility for keeping records on the one, two and three year subscriptions. The most important advantage is the reduction in over-all paper handling.

It might be possible by obtaining bids on a large volume of periodicals to obtain slightly lower prices from subscription agencies, but the problem of changing such a large volume and not missing issues would offset any savings. We, therefore, recommend the use of a subscription agency wherever possible.

There are, of course, many periodicals that a subscription agency does not handle that it may be able to obtain but that usually can be handled as effectively by dealing directly with the company, association or other group publishing the publication. — D. Francis Finn, purchasing agent, Purdue University.

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LETTERS TO THE EDITOR

Coincidence?

Paducah, Ky.

Editor:

I was interested in the news item on page 93 in the May issue of your magazine where it was reported that Cornell University is considering obtaining a liquor license for its student union building.

I wonder if there is any connection between this article and the article on page 98 of the same issue entitled, "Engineering Enrollment Increases at Cornell." — ROYCE H. GREGORY, business manager, Paducah Junior College.

Reader comment is invited. Correspondence should be addressed to: Letters to the Editor, COLLEGE AND UNIVERSITY BUSINESS, 1050 Merchandise Mart, Chicago 54, III.

North Chili, N. Y.

Editor:

The July 1961 issue of College and University Business has had special interest for the administration of this college. We are referring particularly to page 24 where begins the article entitled, "Trimester," by Edward Harold Litchfield.

It is our hope that your circulation department will be able to furnish Roberts Wesleyan College with 50 additional copies of the July issue for distribution to the faculty by September 1. — Ellwood A. Voller, president, Roberts Wesleyan College.

San Francisco

Editor:

Carl McDaniels, assistant director for professional relations of the American Personnel and Guidance Association, has drawn our attention to the June and November 1960 issues of College and University Business. We understand that these issues have very good discussions on student centers.

We would like very much to obtain these issues, since we are providing information on the construction and establishment of student centers for the University of Ceylon. — Mrs. Norman Coliver, program services division, the Asia Foundation.

raising funds?

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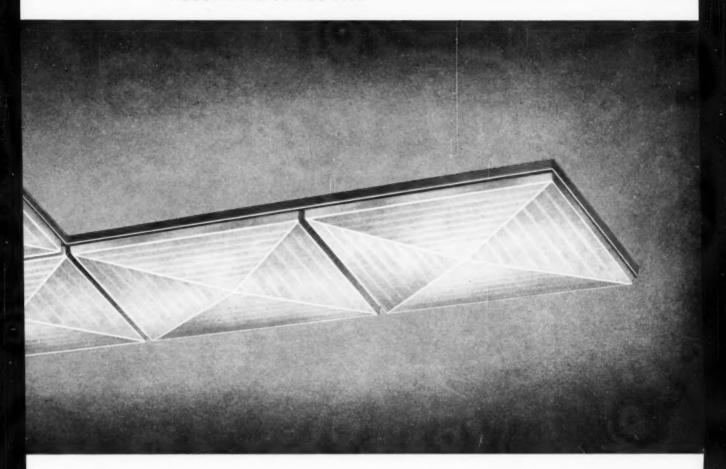
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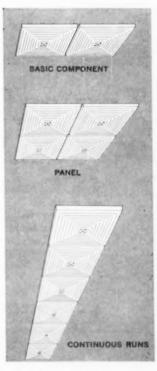
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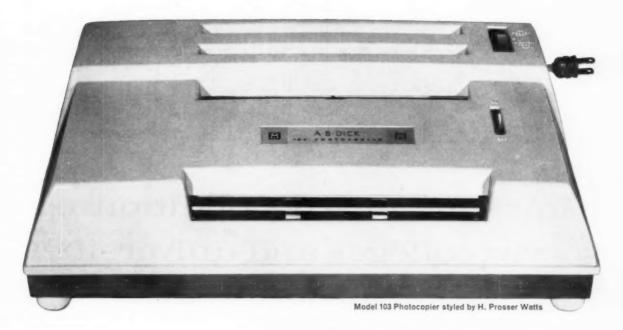
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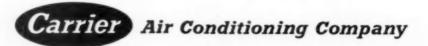
Perhaps the most remarkable thing about the list on the opposite page is this: the great number of institutions that have been added to it within the last dozen years. Even so, the list merely represents a sampling of the colleges and universities which have turned to Carrier for air conditioning.

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Some colleges are just beginning their air conditioning programs. Others like Southern Meth-

odist University, with 23 major air conditioned buildings, are well along. Almost all new educational construction provides for air conditioning—the U.S. Air Force Academy, for example. But older buildings, like 60-year-old Jesse Hall at the University of Missouri, are also being modernized. Small colleges like Drury and Cedar Crest find air conditioning an educational investment, as well as Chicago, Ohio State and UCLA. And the trend to air conditioning is by no means confined to warmer climates.

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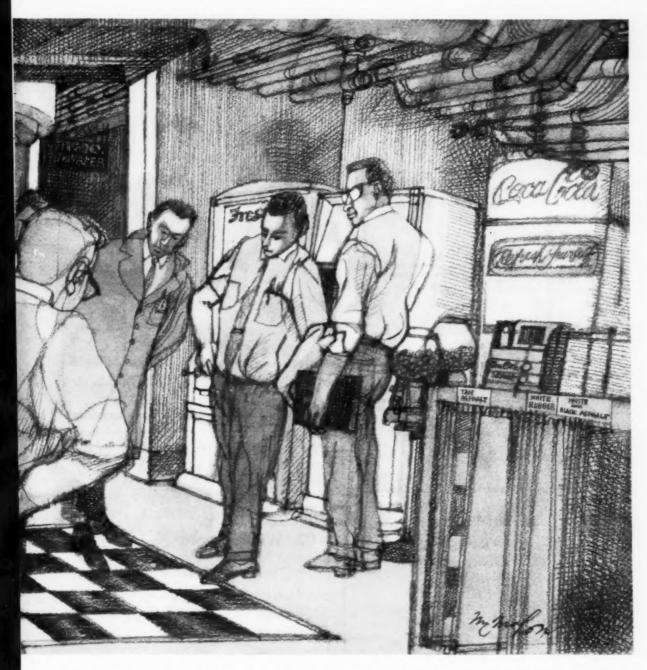
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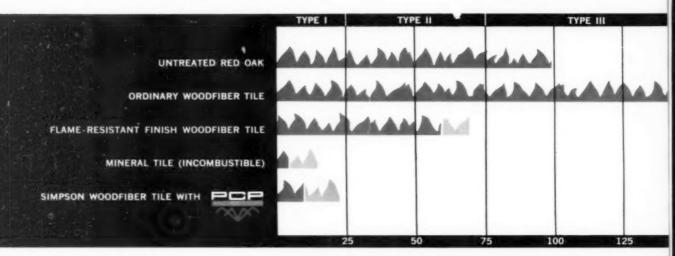
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Note — PCP Forestone was tested by a leading independent research institute. Name of latoratory and complete test results upon request.

PYRO CHEM PROTECTION PROTECTION SIMPSON HAS DEVELOPED PYRO-CHEM—an exclusive process that impregnates every fiber with fire-proofing chemicals. In recent tests conducted by a leading independent research institute (name on request) Simpson PCP woodfiber tiles scored flame-spread ratings as low as 13—all within the 0 to 25 range required for certification as a Type I material under ASTM E84-60T Tunnel Test.

Woodfiber acoustical tile is accepted as the most economical product to provide effective noise control. Simpson woodfiber tile with flame-resistant finish is equal or superior to any surface treatment available. But until today architects, contractors and building committees have been forced to more expensive materials when a Type I flame-spread rating is required.

WHAT THE TUNNEL TEST TELLS YOU ABOUT FIRE HAZARDS

The tunnel test (used to test the efficiency of Pyro-Chem) measures how far a building material will propagate a flame from an outside fuel source. It simulates actual fire conditions under laboratory control. This tunnel test was developed by the American Society for Testing Materials. It is accepted by the Acoustical Materials Association, Building Officials Conference of America, and Uniform Building Codes of the International Building Officials Conference.

SAVE UP TO 1/3

Now you can have Type I flame-spread protection equal to that of mineral tile costing up to 15 cents more per square foot. Simpson PCP acoustical tile is far superior to ordinary woodfiber tiles, yet costs only pennies more per foot.

PCP ACOUSTICAL TILE PYRO-CHEM PROTECTION AVAILABLE IN SEVEN PATTERNS

Simpson offers a complete variety of sizes, thicknesses, and surfaces. Four textures are available in Forestone® PCP plus two perforated PCP patterns. This makes it possible to select the specific combination of beauty, noise control, economy, and fire safety required for each installation.

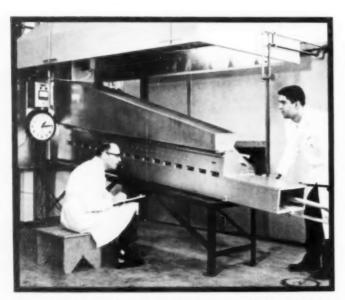


PCP ACOUSTICAL PRODUCTS

SIMPSON PRODUCT	THICK- NESSES	SIZES	TYPE EDGE	INSTALLATION METHODS	FIRE HAZARD CLASSIFICATION	EFFICIENCY* (NOISE RED. COEF.)
FORESTONE TEXTURES DRIFTWOOD PCP	9/16"	12" x 12"	Flange joint	Stapling or nailing	ASTM E 84-60T Type I	.60 to .70 depending on thickness
STRIATED PCP	9/16"	12" x 12"	Beveled.	Cementing, nailing	Flame-Spread 10 - 23	and method of installation
STARLITE PCP	9/16"	12" x 12"	kerfed & rabbeted	or mechanical suspension		
FORESTONE FISSURED PCP						
	9/16" 3/4"	12" x 12"	Beveled	Cementing, nailing or mechanical suspension	ASTM E 84-60T Type I	.60 to .70 depending
	9/16" 3/4"	12" x 24"	Flange joint centerscored	Stapling, nailing or mechanical suspension	Flame-Spread 10 - 23	on thickness and method of installation
	3/4"	12" x 23-3/4"	Beveled, kerfed & rabbeted	Exposed Z or T mechanical suspension		
PERFORATED PATTERNS						
RANDOM	1/2"	12" x 12"	Beveled	Cementing, nailing	ASTM E 84-60T	.60 to .75
DRILLED PCP	3/4"	12" x 24"	Centerscored	or mechanical suspension	Type I Flame-Spread	depending on thickness
PETITE PCP	1/2" 3/4"	12" x 24"	Flange joint centerscored	Cementing, nailing or stapling, mechanical suspension	10 - 23	and installation method

*Figures given are for untreated tiles.
Ratings for PCP tiles are not yet available,
but they are expected to correlate
closely with those for untreated tiles.
See Sweet's catalog (11a Sim) for complete tables.

The Los Angeles Fire Department, recognizing the importance of the problem, has been conducting full-scale experiments for several years to determine performance of various materials under actual fire conditions. Their experiments have proved a very close correlation between performance under actual fire conditions and tunnel test ratings.



Pictured is tunnel-testing equipment at Simpson's Seattle, Washington, laboratory. Simpson is the first building materials manufacturer to build its own fire test tunnel, a replica of the one used by U.S. Forest Products Laboratory. Pyro-Chem is the latest of a long line of dramatic new building products developed through Simpson's continuing research program.

LOWEST COST TYPE I FLAME-SPREAD PROTECTION

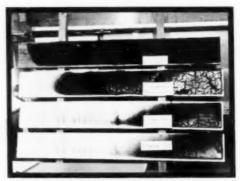
For the first time it is possible to obtain maximum flame spread protection combined with the tremendous economies of woodfiber acoustical material.

New Simpson PCP acoustical products may be used anywhere an **absolutely** incombustible ceiling is not required. This makes possible great savings in construction of schools, clinics, churches, stores, restaurants and similar buildings. Simpson PCP products were especially designed for those institutional, commercial and recreational facilities where a low flame-spread rating and effective sound control are necessary, but where cost savings are desired.

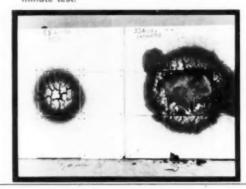
WOULD YOU LIKE A PYRO-CHEM DEMONSTRATION AND SAMPLES?

Your nearest Certified Simpson Acoustical Contractor will be glad to provide you with samples and arrange for a demonstration at your convenience. He is listed in the Yellow Pages under Acoustical Materials.





Typical sample panels (top) after testing in Simpson's tunnel test equipment. Sample panels after testing (bottom) in accordance with Federal Specifications SSA-118b. Left: PCP tile after 40 minute test. Right: untreated woodfiber tile after only 20 minute test.



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believing. Please arrange for me to see
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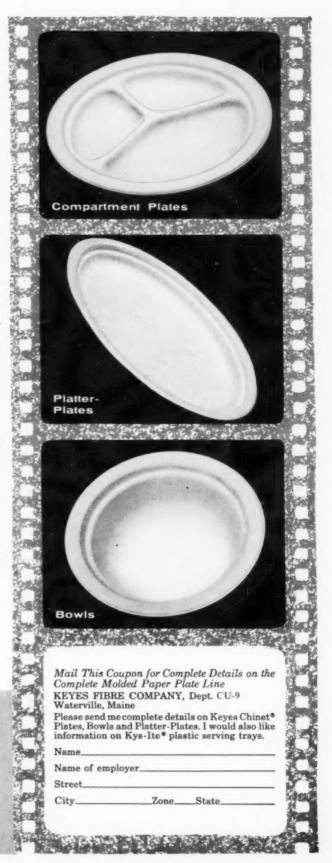
New Bowls: Full depth bowls for hot or cold food. Strong and leak-proof because of Keyes exclusive new Plasti-sizing Process. Available in 16-ounce size, white and pastel colors.

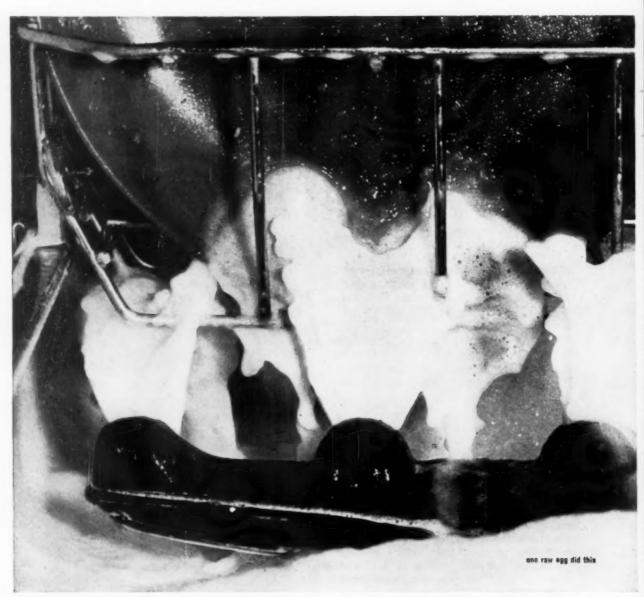
New Savings! Convert to Chinet molded paper service and end the problem and expense of dishwashing help. Also eliminate sanitation problems, the initial and replacement costs of expensive tableware and the need for elaborate equipment. These savings will far outweigh the cost of paper service itself.

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THREE E L DETERGENTS WILL PREVENT THIS CHOKING FOAM WHICH DRASTICALLY REDUCES WASH PRESSURE.

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defoamer increases dishmachine efficiency by as much as 50%!

Top performance is further assured by selecting the right detergent for *your* dishwashing operation. Only EL offers a choice of three with A F-58, to cover the range of all water and operating conditions. There is SCORE...EVENT...and recently A F-58 has been added to SUPER-SOILAX (at no additional cost, thanks to EL's volume and sales!)



THREE E L DETERGENTS ASSURE THIS FULL FORCE SPRAY ACTION ... (1) F-58 MAKES THE DIFFERENCE!

defoamer) that assures full spray action!

The correct detergent for your dishwashing operation can best be prescribed by an EL Dishwashing Engineer. He is trained to analyze your dishroom problems, to apply the findings of EL's unique research program to make your dishroom operation work best. Send the coupon for a free consultation today!

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Henry F. Miller, Plant Engineer at Waltham Hospital in Waltham, Massachusetts, checks his gas-operated Joseph Goder Incinerator. air pollution. You save money and time on labor, maintenance, refuse storage and refuse removal. And thrifty gas keeps fuel costs low.

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NEW PERMACRYLIC* CUTS MAINTENANCE



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YOU CAN SCRUB IT

Scrub-clean "Lock-and-Key" all you want, because regular floor cleaners remove only the dirt but not the finish. "Lock-and-Key" keeps on shining—never needs buffing.

"LOCK-AND-KEY"* FLOOR FINISH comes in 1-, 5-, 30and 55-gallon sizes.

GREAT NEW CHEMICAL DISCOVERY CUTS FLOOR MAINTENANCE TIME AND COSTS!

This means that "Lock-and-Key" can be cleaned with common cleaning and sanitizing agents, over and over, without dulling or damaging the polish—and no buffing is ever required. Spills, scuffing, grime, grease and grit cannot wear it away. "Lock-and-Key" lasts as long as you want it to.

(*)-Trade-marks of Simoniz Company

Here's the greatest advance in floor coatings since the introduction of vinyl finishes by Simoniz in 1953.

"Lock-and-Key" is a brand-new, completely different, Permacrylic product that solves a major maintenance problem. It has permanent resistance to alkaline cleaners and water—can be re-coated time and time again—yet is easily removable.

FLOOR FINISH

COSTS IN HALF!

2 UNLOCK IT...IT ZIPS OFF 4 TIMES FASTER!

YOU CAN RE-COAT IT

Re-coat "Lock-and-Key" whenever you want without stripping. It will not yellow, discolor or powder. Shine gets even better—protection lasts longer—with every coat.

IT'S LONGER-LASTING

New "Lock-and-Key" Floor Finish provides protection and beauty longer than any product ever could before. Most durable, most easy-to-maintain floor finish ever formulated.

IT'S EASY TO REMOVE

Zip off in minutes with special "Lock-and-Key" Remover when you want to re-coat completely. Just mop the floor—no scrubbing machine needed—comes off 4 times faster than old-fashioned stripping methods.



"LOCK-AND-KEY" REMOVER comes in 20-oz., 1- and 5-gallon sizes.

"Lock-and-Key" can be re-coated whenever you want without yellowing or discoloration. With each new coat you deepen the gloss and extend the protection.

The finish lasts and lasts—yet you can remove it whenever you want, without a machine, merely by mopping the floor with the special "Lock-and-Key" Remover.

Long life, easier maintenance, simple removal: these are the benefits of this great new, completely different, Simoniz "Lock-and-Key" Floor Finish. They add up, not only to improved appearance, but to greatly reduced maintenance costs for all floors.



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5 ²/₁₀ cents per thousand servings



That's how durable and economical Libbey's attractive Columbian tumblers are

An audit of Libbey Heat-Treated Dated Columbian Tumblers in restaurants in 7 major cities showed a glassware cost of 5.2 cents per thousand servings. That's durability . . . and economy!

The easy-to-hold, graceful shape

of this beautiful glassware is an asset to any table setting. There is a full range of sizes (5 to 12 ozs.).

You, too, can prove the durability of these tumblers by checking the mark on the bottom. The left number shows the year of manufacture and the right designates the quarter.

For full information on Libbey Heat-Treated Dated Columbian Tumblers, see your nearby Libbey Supply Dealer or write direct to Libbey Glassware, Division of Owens-Illinois, Toledo 1, Ohio.

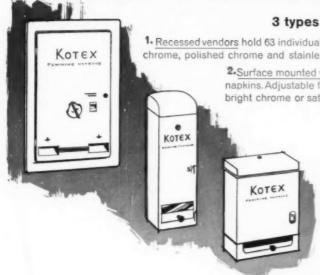
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The great convenience of restroom vendors is appreciated by both pupils and teachers. And only Kotex offers three types—making it the most complete personal service available for your school. All are easy to install—all have trouble-free, longer-wearing cold-rolled steel coin mechanism.

Vending machines for Kotex belts augment this

More girls prefer Kotex feminine napkins than all other brands

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Please send complete information on vending machine service for Kotex feminine napkins.

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Vol. 31, No. 3, September 1961

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*overhead means out-of-the-way...

no stumbling hazards - no interference with cleaning



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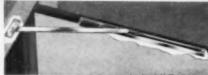
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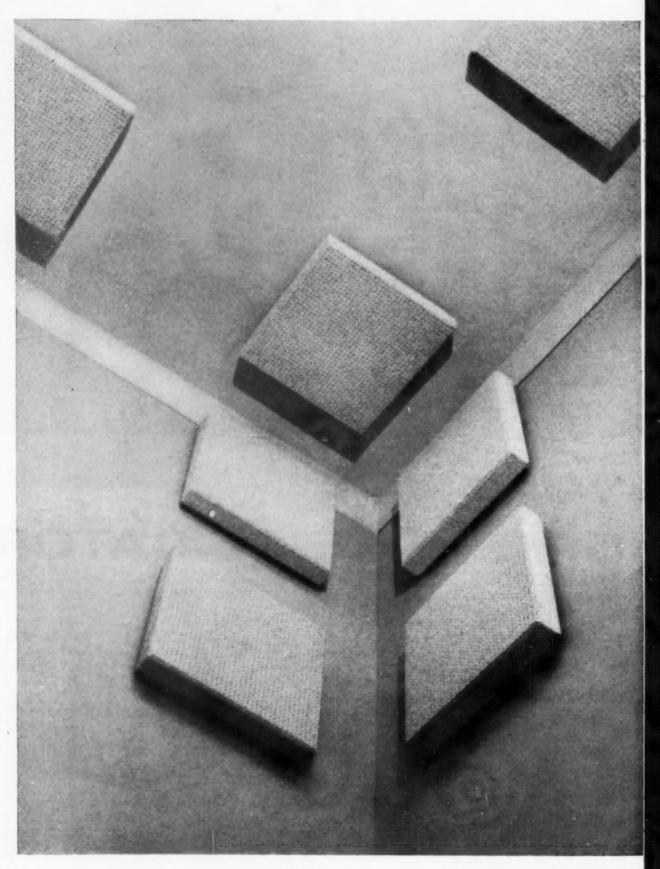
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a new product, GEOCOUSTIC, "lets us control schoolroom sound...not just deaden it"

... reports Mr. Everett D. Carlton, Superintendent of Buildings, Bloomington, Ill., School System

"Our results with GEOCOUSTIC in two old vintage elementary schools have been remarkable. The 'spirit' of the room acoustics has improved 100%."

This important change in 'spirit' is further described by Mr. Carlton in his comparison of the rooms before and after the installation of GEOCOUSTIC:

"Excessive reverberation, a sound disturbance akin to dissonance, and often, the poor intelligibility of the teachers' words were serious problems we'd faced. During a recent remodeling program, we decided to experiment with Pittsburgh Corning's new acoustical material."

After applying GEOCOUSTIC "patches" (see photos), Mr. Carlton and a colleague tested the rooms: "Where we previously had to raise our voices to be distinct and clear in the room, we found that we could now stand a full 30 feet apart, converse in an ordinary tone of voice without strain or tension, and be easily understood. We are extremely

pleased with GEOCOUSTIC because it has helped us gain an objective — the control of sound in an otherwise noisy classroom . . . a remarkable condition for both our teachers and students."

What is GEOCOUSTIC? It is both a material and a method. The material is a cellular glass unit measuring 13½ x 13½ x 2½. Its extremely high absorption efficiency makes the highly effective patch technique practical for room acoustics.

Mr. Carlton describes the difference in cost: "We completed 10 rooms in three working days. We've found a minimum of two weeks required with conventional acoustical materials for the same amount of work. The original cost is essentially the same, but the savings in labor costs are rather tremendous!"

Interested? Write for the name of your nearest GEOCOUSTIC contractor and a free copy of Mr. Carlton's full story. Pittsburgh Corning Corporation, Department CU-91, One Gateway Center, Pittsburgh 22, Pa.



Notice the application of GEOCOUSTIC patches in the important area of the room boundaries resulting in efficient sound control.





PITTSBURGH





HOW MANY LIKE HIM WILL YOUR SCHOOL LOCK OUT?

Some Schools and Colleges are turning away a third of the students who come to their gates.

Others turn away a half.

And there are some who admit they can take only a tenth of those who apply for admission.

The reasons are usually the same: "Not enough money, not enough faculty, not enough space!"

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college

SEPTEMBER 1961

The Administrator's Bookshelf

THE college executive who is growing in his job maintains a regular habit of reading professional literature in his field as a self-improvement measure. To do otherwise is to run the risk of stagnating on the job.

At this time of year, efforts are being made by college administrators to wrap up last year's activity in the form of an annual report. The report is a public relations tool that is not properly used in most institutions. It should be interpretive as well as factual, attractive rather than dull.

Two books recently off the press should be helpful to persons responsible for making annual reports more effective. One of these is Walter E. Weld's book, "How To Chart — Facts From Figures With Graphs," published by the Codex Book Company, Norwood, Mass. The other book has the intriguing title of "How To Lie With Statistics," by Darrell Huff, published by W. W. Norton and Company, 55 Fifth Avenue, New York.

Weld's book discusses the technics of dramatizing figures and data by use of various chart forms. It is a helpful textbook on charting. Huff's book on "How To Lie With Statistics" reports on the hazards involved in improper graphical analysis and suggests ways in which inaccurate conclusions should be avoided. It is a treatise on honest reporting of statistical data rather than a primer on deceit as the book title might imply.

In the area of fund raising and development there are some new materials that merit study. Included in this category are the following: "Fund Raising for Higher Education," John A. Pollard (Harper and Brothers); "Tested Methods of Raising Money," M. M. Fellows and S. A. Koenig (Harper and Brothers); Gonser and Gerber on College Development (38 South Dearborn Street, Chicago 3), and "Some Aspects of Educational Fund Raising," jointly published by the American Alumni Council and the American College Public Relations Association, 1785 Massachusetts Avenue, N.W., Washington 6, D.C.

. One cannot expect to become an authority on all phases of college administration in a few easy lessons. Competence can be improved, however, by keeping up with the field through an organized program of reading professional literature. It is the mark of a top-flight administrator.

The Student Loan Business

POR many years the student loan provisions of the average college represented a small part of its student aid program. Most of the attention was devoted to processing scholarship grants and working out avenues for student employment.

With the advent of the student loan provisions of the National Defense Education Act has come a complete change in attitude and philosophy toward student loans. Much of this change of attitude has been on the part of the student instead of the administrator. The student realizes that a loan granted to him represents a business-like way for him to continue his higher education. He looks upon it as a profitable investment for his future.

This new acceptance of the student loan idea, initiated by the N.D.E.A., is placing a heavy administrative load on college fiscal offices. Extensive and accurate records on every borrower must be set up and a detailed collection system established. From a modest beginning, the loan program will pyramid over future years into a very substantial loan and collection business. The colleges are now involved in a fiscal operation they cannot stop; it behooves them to establish sound procedures to prevent being overwhelmed in future years with delinquent accounts that they are unable to collect.

The college administrator who feels that the present N.D.E.A. loan program represents only a passing phase is deluding himself. With the expiration of the N.D.E.A. program most likely will come a comparable program under federal auspices.

Colleges have been very fortunate in their student loan repayment record in the past, but the volume of business has been relatively small. Steps should be taken now to make certain that an increasing volume of student loans does not dislocate fiscal operations in the years ahead.



Needed: Presidents With Authority

Gerald P. Burns

Executive Director

Independent College Funds of America, Inc., New York

To THE uninitiated, it would seem that the life of a college president should be interesting and enjoyable. The beauty and serenity of the campus, the social and cultural involvements, the power and prestige of the position, the opportunity to mingle intellectually with the inquiring minds of eager students and the mature minds of distinguished scholars — all of these intriguing expectations should make for a fascinating and satisfying career.

Given the foregoing emoluments, why then are college presidents under such great pressure and duress? Why is the American college presidency considered such a difficult job?

Few college people with firsthand acquaintance with the presidency will describe it as an easy assignment. But, when one investigates the presidency carefully over a long period in a variety of institutions, an inescapable conclusion obtains. A fair percentage of the presidential failures is due to the kind of people thrust into this complex position.

Some presidents are temperamentally unsuited to the multitudinous demands of the office; many are well educated but poorly trained for the job; surprisingly few have had the kind of related and sequential experiences that would best equip them for such leadership. Sometimes their problems relate to the institution; some institutions thrust the chief executive into the chair with little or no time for analysis of the situation; many colleges have too few administrative assistants, putting a heavy "do-it-yourself" burden on the president; in other colleges these second-echelon administrators are not well trained and experienced in their own jobs. Some of the difficulties relate to the field of higher education. There are innumerable handicaps that the president frequently inherits "by tradition," such as being responsible for everything at his institution, yet not having final fiscal control (trustees) or academic control (faculty) or student control (parents).

Greater care should be exercised in the selection of presidents so that persons unsuited for this arduous assignment will not be elected and destined for a brief and unhappy tenure. The demands of the college presidency call for a "man of management" as well as a "man of learning." In addition to picking the right man, trustees must take cognizance of the fact that a college or university, like a business organization, needs varying numbers of able administrators. And, finally, the ghosts of imperious traditions must be laid to rest lest they rise up and slay our hero. Specifically, the trustees should ordain, the faculty should agree, and the students should accept, that no college functionary (chairman, president, vice president, dean, director, professor or instructor) can be held responsible for that over which he does not have authority.

Although his area of responsibility is great, his authority is limited. The faculty controls the curriculum, the trustees formulate financial policies, and the students have a large measure of freedom into which the president injects himself at his peril. Trustees can play an important role in strengthening the hand of the president. Assuming he is a competent academic executive, the president can and should have power commensurate with the problems and potentialities he faces.

The granting of this power comes from many sources, chiefly the students, the faculty, and, of course, the trustees. The latter group can and must reestablish the authority and prestige of the presidency.

Traditionally the governing boards have concerned themselves with holding the charter, serving as the legal corpus, dutifully passing upon major policy, and always electing the president. The time is at hand when each trustee or regent must take seriously the responsibility he has assumed to his college and its president. He must seek full knowledge of the institution, its traditions and philosophy, its problems and potentialities. Never acting unilaterally, but always as a member of the board, he must work to provide the president with the tools to accomplish his difficult task. These include a qualified staff, both professorial and administrative; public understanding, hopefully sympathetic to the institution; advice, guidance and support in moving the college onward and upward.

How To Plan for a Healthy Campus

Environmental health cannot be purchased, cannot be wished into existence, nor can it be legislated into being. It must be logically planned.

Tom S. Gable
Public Health Engineer, University of Nebraska
Samuel I. Fuenning, M.D.
Medical Director, University Health Services

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Monitoring one of many radioactive isotope laboratories at University of Nebraska to assure protection of the worker.

RAPID growth and acceptance A RAPID grown and health programs in colleges and universities have taken place in recent years. However, this growth has not been without problems. Initially, great concern was expressed over whether or not an environmental health program was needed in a university. During more recent years, a difference of opinion has arisen regarding the appropriate administrative location for environmental health programs. Unfortunately, there have been one or two unusual circumstances where the administrative location of environmental health programs has been in other than university health services. These circumstances have received an unproportionate amount of attention and publicity. This is not unlike the automobile accident versus the airplane crash.

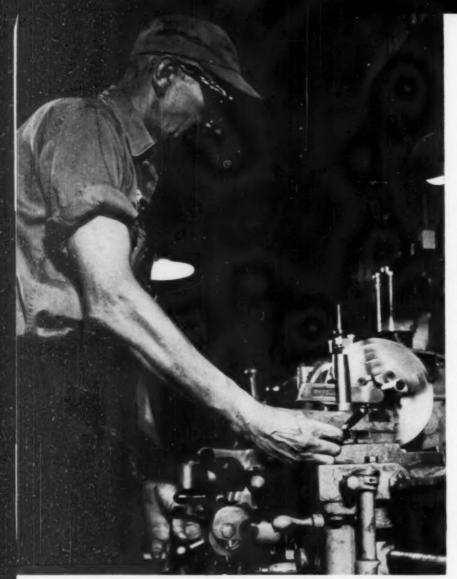
If we are to settle the question as to the appropriate administrative location of environmental health programs in our institutions, then we must examine closely some of the salient features of a successful program.

The successful program of environmental health cannot be purchased, cannot be wished into existence, nor can it be legislated into being. A truly effective program must be logically planned to encompass the fundamental problems, the existing needs, and the desires of people. The program must also make use of, and provide for, the integration of the resources in the community.

A community, whether a large metropolitan area, a village, a rural community, or a university and college, has a soul, a way of life, which is unique unto itself. Most important, the community is made up of people, human beings, who think individually and act separately, but who, as a community, have well established social mores.

If, then, we are to develop a truly effective environmental health program, we must clearly define our purposes and objectives, and must concern ourselves with the community and its problems, needs and desires.

If one analyzes the foregoing, the administrative location of an environmental health program becomes more and more significant. To better understand its significance, let us review environmental health, its purpose, objective and its dynamic nature. None of us would argue the point that man's physical and mental health is his most precious possession. Most of us would agree that the environment





Top: Working safely by wearing protective goggles in the maintenance shop. Left: All laboratories have fire fighting equipment. Right: New temperature pasteurizer assures proper control of milk at the college of agriculture.

Students Should

is directly related thereto. Those experienced in public health and in personal health would immediately accept the fact that sanitation (a facet of environmental health) is first in the control of the environment.

A Means To Thrive

Traditionally, sanitation has emphasized survival, notably through the environmental control of epidemic diseases. However, today, in our modern society, sanitation per se has given way to environmental health. We think not of survival, but of thriving in our present-day society. The American individual, whether in the family or in the community, expects more from environmental health than freedom from disease. The public expects not only safe food, safe water, and adequate waste disposal, but is also concerned with air, noise, color and lighting. It is interested in clean neighborhoods, clean communities, and clean countrysides. It looks to the total environment. That is why environmental health is more than a means to survive, it is a means to thrive. If we look at this in an overall light, we see immediately that environmental health is indeed fundamental to everyday life in our modern world. It is the difference between mere survival and a full, whole

Most present-day university and college presidents, or chancellors, look upon their institutions as providing opportunities for students to achieve a "total" educational experience. Environmental health programs then, like other nonacademic phases, must contribute to the total educational program of the institution. It should provide the student with an environment that will help afford him the opportunity to pursue his quest for knowledge in a state of complete physical, mental and social well-being, thus permitting the student to apply himself more acutely

Be Exposed to Modern Environment

to the primary task at hand - learning.

In reality, however, the student is in the process of learning at all times. The student spends a number of vears in the environment of the institution. As a part of his total educational experience, he should at least be exposed to an environment that is indicative of modern, healthful living. Thus, the surroundings should, within economic reason, represent an advanced level of civilization. In this manner, the student, upon leaving the institution environment and entering a community, can be expected to carry with him some of the concepts of healthful living. Thus, an environmental health program must become an integral part of the university.

Responsibility

The first significant consideration in selecting the appropriate administrative location for environmental health programs is the need for patterning university programs of this sort after its counterpart in the community. The responsibility for the environmental health program in the community resides in the local or state health department; a department that provides the same general types of services on a somewhat less intense scale for the community, as the university health service does for the university and college.

The Challenge

Modern-day society is changing rapidly. We can look back only 10 years and we had no jet planes — 15 years and no television. The environmental health program and its many problems are changing just as rapidly. The challenge of these changing patterns is one that must be met by the environmental health profession. We are also faced with the problem of maintaining past gains. As most of us realize, when problems become less

acute, we are likely to overlook the need for continuing attention thereto. Excellent examples of this are immediately available in the area of immunizations. Thus, society is faced with an ever changing environment, with a challenge of maintaining past gains and overcoming new problems in the environment as they arise.

Acute Problems

Universities and colleges encompass these same problems. Perhaps even more so, for many of the changes are initiated at the universities and colleges. The environment in the university and college changes perhaps even more rapidly and sooner than in the local community. The university environmental health program cannot wait to follow the leadership or experiences of local or state health agencies. The problems are acute and their solution demands immediate action.

I think it is clear, from the foregoing, that we have established: (1) the need for a successful environmental health program, and (2) the need for a dynamic program, a program that is constantly changing and keeping pace with our modern-day technologies.

Administrative Location

This then dictates that we have a program that is so located administratively as to permit its rapid and knowledgeable change, an administrative location that will permit a positive, progressive, ever changing environmental approach to health. It must be based upon human needs, directed toward human wants, founded upon scientific principles, planned by all those persons and groups concerned, and operated with human understanding. In this manner, and only in this manner, will it encourage the people in the community to help themselves. It must be aimed at the development of attitudes, understand-

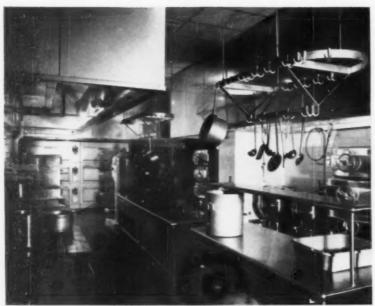
ing, practices and facilities that will provide a clean, safe and inspiring environment.

It must be so located as to provide medical consultation and diagnosis, the potential of a team approach, so that the physician, the nurse, the dentist, the bacteriologist, the chemist, the health physicist, and the sanitary engineer can function as a group. It must provide for academic integration and liaison. It must make patient referral a case-finding technic in the environment. It must provide adequate laboratory facilities, and make possible the definition of optimum conditions of the environment, as related to the health of man. The program must be so placed that its administrative location will assist in developing a prestige and status that will lead to acceptance by all persons in the university.

While it is possible to conceive that a security operation, vice president's office, or a dean of student affairs office might conceivably provide prestige and status, laboratory facilities, and academic integration and liaison, it is very difficult to comprehend such an operation encompassing the other facets mentioned. The facts are that the environmental health program is directly related and a basic adjunct to the medical profession. It is impossible for the physician, on the one hand, to provide for the total health of the individual, and on the other hand, it is difficult to comprehend how an environmental health program could achieve its ultimate objective without the physician and his colleagues. The necessity of the team approach alone precludes the establishment and administrative operation of an environmental health program in any structure other than in direct relations with the medical profession, the nursing profession, and the other component parts of the medical and health team.

Another Reason

The difficulty in maintaining the all-necessary patient referrals in terms of delays in referrals, fact-finding and case studies, as well as the necessity for continued liaison between the medical and environmental health professions after patient referral, again points the way to the location of environmental health programs within the university health services.



Above: Properly constructed and clean equipment for food service at the new Nebraska student union. Below: Storage facilities for radioactive wastes under the supervision of the division of environmental health and safety.



Finally, I should like to summarize the basic problem that confronts the environmental health program in the university and college. Its basic purpose is to achieve an environment that will afford the student the opportunity to pursue his quest of knowledge in a safe, clean and inspiring environment, an environment that, through association, will provide him an educational experience that he can carry into his community later in life. If this then is our objective, then we are agreed on the principle of a sound program, i.e. a program based upon human needs, directed toward human wants, founded upon scientific principles, planned by all persons and groups concerned, and operated with human understanding, so as to encourage people to help themselves in the development of a clean, safe and inspiring environment. Then our problem is to seek out an administrative location within the university and college that will permit us to do these things and to provide the necessary facilities for, paraphrasing the educator's concept, a 'total approach." We can no longer overlook the health aspects of learn-

Look to Health Service

If we look at all of these facets and consider in retrospect the various problems of administration that are of primary concern in programing, then we must look, in general, to but one administrative location for an environmental health program in a college or university. We must look to the student health or university health services for this leadership. It is agreed that there have been a few circumstances where such an administrative location is not possible, feasible or practical. However, the attention given these exceptions should not overshadow the basic and sound principles of the location of such programs in the university health service. The student health and the university health service should be looked to to provide and assume the dynamic leadership necessary to foster and implement environmental health services for institutions of higher learning. Only through this administrative leadership can we anticipate the development of successful environmental health programs in universities and colleges.

CLASSROOM SPACE PER STUDENT: HERE'S HOW TO FIGURE IT

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John B. Rork

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HOW many square feet should there be per student-station in a general classroom? This question is asked almost every time a new academic building is being planned on a college campus. Many answers have been given and many standards have been proposed to answer this question. Our thesis is that the number of square feet per student-station may be determined only after the function, the size, and the shape of the room have been established.

A study of the actual practice in six states is shown in Table 1 on the following page.

Statewide space utilization studies are available for each of these states and norms presented are the result of a thorough analysis of data contained in these studies. Since each state used the Russell-Doi Manual¹ for its major reference, it is assumed that data from the studies are statis-

tically comparable. The average square feet per student-station is 15.6 square feet in the average room which has 722.7 square feet of assignable area, 46.3 student-stations, and an average class size (when scheduled) of 26.7 students. This norm is obtained from the data for 136 colleges and universities, which have 4627 general classrooms, 214,-384 student-stations, and a total of 3,343,862 square feet of assignable classroom area.

The table shows the most square feet per student-station in the public junior colleges (21.4 square feet) and the least in public universities (14.1 square feet). It may be noted further that the 55 private institutions vary only from an average of 16.0 to 17.0 square feet per student-station, while the public institutions vary from an average of 14.1 to 21.4 square feet per student-station; yet the composite averages for public and private institutions vary less than one square foot per student-station.

Reference to the individual state studies shows that Wisconsin is the one with the smallest size studentstations (13.4 square feet) and that Kansas is the one with the largest, (17.7 square feet). A public junior college in the state of Kansas has more than 33 square feet per student-station while the University of Wisconsin (Madison campus) has slightly less than 12 square feet per student-station.

An article by Lambert² recommends a standard of 6.5 square feet per student-station in that portion of the classroom where seats are normally placed. This standard was derived by allotting a 10 foot strip across the front of the room to the instructor and the first row of seats, and by placing rows of seats 36 inches apart with a critical distance of 26 inches between seats. This critical distance was derived by trying different spacings in various test rooms wherein both fixed and movable seating were used. Derivation of the standard made allowance also for an adequate aisle on each side of

Russell, John Dale and Doi, James I.: Manual for Studies of Space Utilization in Colleges and Universities. Athens, Ohio: American Association of Collegiate Registrars and Admissions Officers, 1957, pp. 129.

This article was prepared by the authors for the National Association of Physical Plant Administrators of Universities and Colleges.

²Lambert, A. C.: The Standard Seating Capacity of General Purpose Classrooms. American School Board Journal. January 1952, pp. 36,37,

Table 1 — Normative Data on General Classroom Size **Based on Six Statewide Studies**

Institutions of Higher Education	No. of Institutions	Av. Room Size (sq. ft.)	Sq Ft. per Student- Station	Av. No. of Student-Stations per Classroom	Av. Class Size
Public:					
Junior colleges	31	819.4	21.4	38.3	23.6
Colleges	35	717.1	16.6	43.2	25.6
Universities	15	747.6	14.1	53.1	28.8
Total public	81	748.7	15.5	48.4	27.4
Private:					
Junior colleges	10	490.6	16.3	30.1	20.5
Colleges	44	643.2	16.0	40.1	23.2
Universities	1	872.7	17.0	51.4	27.1
Total private	55	636.8	16.1	39.6	23.2
All institutions	136	722.7	15.6	46.3	26.7
All junior college	s 41	759.9	20.6	36.8	23.3
All colleges	79	681.0	16.3	41.7	24.5
All universities	16	749.9	14.1	53.0	28.8
State:					
Kansas ¹	42	715.7	17.7	40.4	22.7
Michigan ³	33	741.3	14.8	50.2	28.6
Nebraska*	22	732.5	15.3	48.0	26.6
North Dakota	12	730.5	17.3	42.2	25.1
South Dakota	16	678.7	16.1	42.1	21.7
Wisconsin	11	730.2	13.4	54.6	30.9

Keller, Robert J.; Pugsley, A. L. and Evers, Nathaniel: Comprehensive Educational Survey of sass; Volume V. Statistical Report: Higher Education Study. Topeka: Kansas Legislative Coun-

cil, March 1960, 339 pp.

Russell, John Dale and Jamrich, John X.: The Survey of Higher Education in Michigan; Staff Study No. 9, Space Utilization and Value of Physical Plants in Michigan Institutions of Higher Education, Lansing: Michigan Legislative Study Committee on Higher Education, June 1958, 214 pp.

Ilaynes, William: Staff Report No. 5, Building Utilization and Needs. Lincoln: Legislative Council Committee on Higher Education, November 1960, 48 pp.

Hollis, E. V.; Martorana, S. V. and staff. Higher Education in North Dakota; Volume II, Source Book. Bismarck: North Dakota Legislative Research Committee, October 1958, 106 pp.

Martorana, S. V.; Hollis, E. V. and staff: Higher Education in South Dakota. Pierre: South Dakota Legislative Research Council, 1960.

Schwehr, Frederick E.: A Survey of Physical Facilities at Wisconsin State Colleges and University of Wisconsin, Fall 1958. Madison: The Coordinating Committee for Higher Education, April 1960, 116 pp.

1960, 116 pp.

Table 2 — The Square Feet Standards Used **To Determine Seating Capacity**

Function	Square Feet per Seat (Student-Station)			
Folding gymnasium bleachers ¹	21/2			
Portable auditorium seating ²	6			
Traditional theater seating*	7-8			
Continental theater seating ¹	8-91/2			
Fixed classroom seating				
(University of Wisconsin)*	12			
Experience norm (Table 1) ^s	16			
High school classroom seating ⁶	25-30			

¹Ramsey, Charles G. and Sleeper, Harold R.: Architectural Graphic Standards, New York: John

*Ramsey, Charles G. and Sleeper, Harold R.: Architectural Graphic Standards. New York: John Wiley and Sons, 1951, p. 435.

*Time Saver Standards. New York: F. W. Dodge Corporation, 1950, p. 435.

*Ramsey and Sleeper, op., cit., p. 422.

*Schwehr, Frederick E.: A Survey of Physical Facilities at Wisconsin State Colleges and University of Wisconsin, Fall 1958. Madison: The Coordinating Committee for Higher Education, 1960, p. 12,

*The "experience norm" is taken from the data presented in Table 1; however, the same figure has served as a "rule of thumb" for many college and university administrators over a long period of years.

of years.

*American School Buildings. Washington: American Association of School Administrators, 1949,

small rooms, and on the sides as well as the center of large rooms.

The normative study presented in Table 1 and the research study by Lambert serve as a base upon which the following examples and conclusions are drawn to support the thesis that the number of square feet per student-station may be determined only after the function, the size, and the shape of the room have been established.

Function

That the function of a classroom will greatly affect the seating capacity of a classroom is shown in Table 2. Of course, no person would ever recommend using gymnasium bleachers for classroom seating, but the example is given to show a very minimum amount of space that might be used. The more practical range falls between the 6 square feet per folding chair and the 30 square feet per pupil-station which is sometimes recommended for high school classrooms. It can easily be seen that folding chairs would allow a minimum of note-taking and class movement while the high school standard would permit a considerable amount of movement as well as such equipment as a separate table and chair for each pupil-station.

The lecture and recitation form of teaching, requiring only space for the student to take notes and write examinations, is the normal classroom procedure at the college level. This activity does not require a great amount of space and helps explain the "experience norm" of 16 square feet per student-station which falls roughly halfway between the two reasonable extremes.

Although the "experience norm" of 16 square feet is approximately the same as the average square feet per student-station (15.6 square feet) shown in Table 1, the average junior college has more than 20 square feet. the average college slightly more than 16 square feet, and the average university approximately 14 square feet per student-station.

There appears to be a logical progression in the average number of square feet per student in classrooms of (1) universities, (2) colleges, and (3) junior colleges. This progression probably can be attributed to the progression of average sizes of those

types of institutions by enrollment. Universities are larger than colleges and colleges are larger than junior colleges, on the average. The larger the institution the more students will register for equivalent courses. The larger the classroom the greater is the proportion of the total area utilized for student seating, resulting in a smaller number of square feet per seat even though the spacing is exactly the same as in a smaller room.

Perhaps the function of the classroom in these various types of institutions also plays an important part in the evolvement of these normative figures. That is, the junior college, particularly in public institutions, tends to use teaching methods similar to the high school (in fact, it may share space with a high school) and also it tends to use similar space standards. Universities, on the other hand, tend to use the traditional lecture method of teaching, which requires less space.

The University of Wisconsin has taken into account the fact that many large undergraduate classes are taught by the lecture method and, therefore, it has standardized its classroom seating with the use of fixed seating (similar to an auditorium seat with a drop-leaf tablet arm or with a movable writing shelf attached to the seat directly in front of it) allowing approximately 12 square feet per student-station.

There is one fallacy in using only this type of seating. The instructor generally has a tendency to request a classroom that has twice as many seats as the number of students enrolled so that when any examination is given the students may be seated in every other seat. This has the effect of requiring 24 square feet per student-station instead of 12. When movable seating is used, it is possible for the student to "spread out" and also occupy that space which normally is used by the instructor.

If the foregoing statements concerning the function of the classroom are acceptable and reasonable, the function of the classroom and the type of furniture needed to serve that function must be known before any standard may be developed or used.

The size of a classroom will greatly alter the effectual square feet per student-station within the room. On the following page, Figure 1 shows

three hypothetical classrooms, each having a width of 24 feet. Classroom A has 480 square feet (20 by 24 feet), Classroom B has 720 square feet (30 by 24 feet), and Classroom C has 960 square feet (40 by 24 feet). For the purposes of this discussion, a dot-dash line (a-b) is placed across the front of each classroom indicating a strip 8 feet wide which is the space occupied by the instructor, or the teaching station. The instructor also is provided with a 3 foot by 5 foot desk (D) and a chalkboard immediately behind the desk with a roller-type screen mounted above it.

It can be seen readily in this illustration that although the size of the teaching station remains constant in each of the three classrooms, the proportionate area in which the students are seated varies considerably. This

is the crux of Lambert's argument for using a standard unit of 6.5 square feet per student-station in only that portion of the room in which students are seated.

Table 3 illustrates this proposition further. Depending upon the type of seating provided or the standard which is used, Classroom A is capable of seating from 16 to 80 students; Classroom B will seat from 24 to 120 students, and Classroom C will seat from 32 to 160 students. When Lambert's standard is employed, Classroom C seats more than twice the number seated in Classroom A since the teaching station remains the same size in each classroom.

The following corollaries may be stated: If the total assignable area in each classroom is used as the base, the larger the classroom, the less square feet per student-station; the

Table 3 — Seating Capacities of Three Classrooms
Based Upon Varying Standards

Sq. Ft. Standards for Seating Capacity of Gen. Classrooms		Classroom B (720 sq. ft.)		
Folding chairs — (6 sq. ft./student-station)	80	120	160	160
Auditorium seating — (9 sq. ft./student-station)	53	80	107	106
Fixed classroom seating — (12 sq. ft./student-station)	40	60	80	80
Experience norm — (16 sq. ft./student-station)	30	45	60	60
High school classroom — (30 sq. ft./student-station)	16	24	32	32
Lambert's standard — (6.5 sq. ft./student-station exempting space for the instructor and aisles)	40	71	101	80

Table 4 — Usable Seating Areas of Three Classrooms Depending Upon Location of the Teaching Station

Usable Scating Area	Classroom A (480 sq. ft.)	Classroom B (720 sq. ft.)	Classroom C (960 sq. ft.)	
Area left after deducting the teaching station indicated in Figure 1 B. Per cent of the assignable space left for student seating	288 sq. ft. 60.0 per cent	528 sq. ft.	768 sq. ft. 80.0 per cent	
a. Area left after deducting the teaching station indicated in Figure 2 b. Per cent of the assignable space left for student seating.	320 sq. ft.	480 sq. ft.	640 sq. ft.	

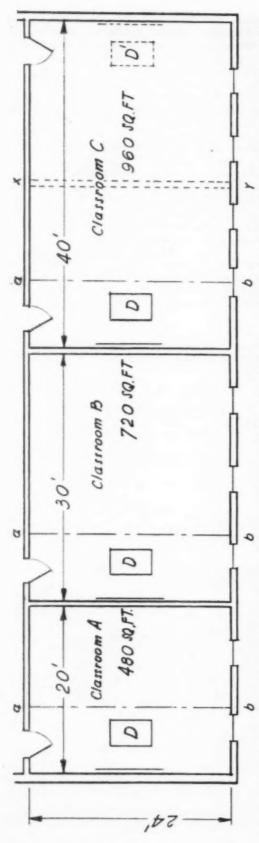


Figure 1. Three hypothetical classrooms, each having a width of 24 feet. Instructor's desk (D) is 3 by 5 feet. Dot-dash line represents an 8 foot strip of space occupied by instructor. Chalkboards and roller screens are located behind desks.

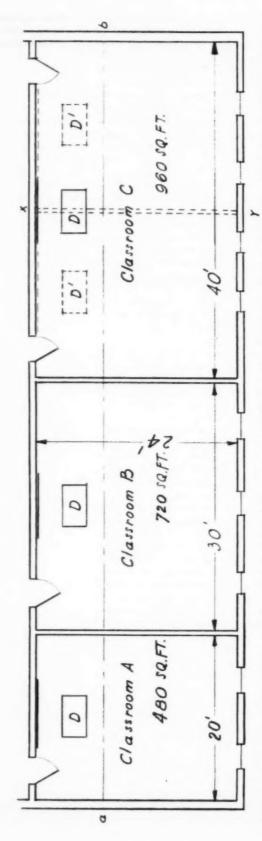


Figure 2. Three classrooms are the same as in Figure 1, except that the location of the teaching station has changed. Dotdash again indicates space occupied by the instructor. Teaching station placement affects the student-station space.

In planning classrooms, pay attention to function, size and shape

smaller the classroom, the more square feet per student-station. If only the seating area within the classroom is used as a base, the square feet per student-station may remain the same in any size classroom.

Another example may be given using Figure 1 by introducing a wall (dotted lines x-y) which divides Classroom C into two equal classrooms each the size of Classroom A. By adding a chalkboard and desk (D1), we again produce a teaching station in each room. According to the usual standards employed as illustrated in Table 3, the two new classrooms have the same capacity as previously. Lambert, however, takes into consideration the added teaching station and shows 21 less studentstations in the two new classrooms (101-80).

After this comparsion of the standard advocated by Lambert versus other standards, it is interesting to note a more recent article by Lambert in which he gives dimensions for minimum size general classrooms having 28, 32, 35, and 36 student-stations.³ If the total assignable area of these rooms is divided by the number of student-stations, the rooms have from 14.3 to 15.7 square feet per student-station.

Table 1 indicates that the six states had an average of 26.7 students per classroom when scheduled although the average room had 46.3 student-stations. To determine the appropriate square feet per student-station for new classrooms will be to no avail unless the size of the classroom (in student-stations) is approximate-

ly the same size as the class assigned to it.

The size of a classroom will affect the number of square feet provided per student-station since the size of the teaching station tends to be constant while the seating area varies considerably.

For the purposes of this article only rectangular classrooms are illustrated. It is not our purpose to discuss the advantages and disadvantages of other than rectangular shapes at this time.

But, even when only the prosaic rectangular room is considered, the placement of the teaching station may affect the square feet per student-station. Figure 2 has the same three classrooms as Figure 1 except that the location of the teaching station has been changed. The dot-dash line (a-b) again indicates a strip 8 feet wide across the room for the teaching station and the location of the desk (D) and the chalkboard with the screen is shown.

Perhaps the first item that becomes obvious is that when Classroom C is bisected with the dotted lines x-y to form two classrooms the size of Classroom A, there is no change in the teaching station area; therefore, when classrooms are arranged in this manner, the teaching station area and the student-station area have the same percentage relationship.

This is exemplified in Table 4, which compares the effect of the arrangement of the classrooms in Figure 1 with those in Figure 2. Note that the per cent of the assignable space left for student seating is always the same in Figure 2, but the percentage relationship in Figure 1 increases from the smallest to the largest classroom. This illustrates the

effect of the arrangement of the room upon the per cent of seating area.

A further example of the effect of the arrangement of the room can be seen when Classroom A is compared in the two figures and in Table 4. Although Classroom A has the same dimensions in both cases, it has a higher per cent of seating area in Figure 2. This is the result of placing the teaching station across the narrowest side of the room. When this same axiom is followed with Classroom C, the teaching station in Figure 1 is across the narrow side of the room and produces 128 more square feet of student seating area than the same size room in Figure 2, or 13.3 per cent more area.

The effective square feet of student seating space is therefore dependent upon the shape and arrangement of the room. Realizing that the width of a classroom is often determined by the length of a beam which is used to span the area, the careful planner can locate the chalkboards and other items of furniture to make the most effective use of the space available.

When the college and university physical facilities planner develops the general classroom areas of new academic facilities, he must take into consideration the function, the size, and the shape of the rooms which are being planned, and then make a careful selection and use of the "standard," "norm," or "rule of thumb" which best fits the particular situation. When one item is considered without reference to the other two items, planning will be faulty.

The data presented in this article do not give a final solution to the problem, but are merely offered as guides in planning new facilities which include classrooms.

³Lambert, A. C.: Don't Plan Too Many Small Classrooms, Coll. and Univ. Bus. 16:4, (April) 1054.

A TOP food service director must be more than merely a cafeteria manager. Today, a food service director is expected not only to be an expert in purchasing, preparation and servicing of food, but he is also expected to be particularly skilled in personnel relationships, accounting, food costing, and portion control. He is expected to be skilled in the art of communication, both written and oral, so that he may keep his superiors fully and promptly informed and sympathetic to his particular problems. He is expected to be able to command the respect and attention of not only his superiors, but associates and employes as well. He is expected to be able to be alert enough to take advantage of opportunities at a moment's notice. Last, but certainly not least, is his ability in the art of merchandising, salesmanship and publicity, again injecting the personal touch.

A successful college union food service embraces two virtually important elements — the desire and the ability to make things happen. It performs in an everlasting upward progressive spiral: measurement, planning, action; remeasurement, replanning, continued action.

To be more specific, the methods we use to "sell" our food service program to our campus family are as follows: an excellent quality of food; imaginative menu

planning; attractive displays; courteous, friendly, efficient service; a variety of price structures, and merchandising, salesmanship and publicity.

Needless to say, an excellent quality of food is of paramount importance. We never forget the old adage, "Food is remembered long after the price is forgotten." We have adopted the philosophy, "If you aren't proud of it, don't serve it!" We refuse to settle for "second best." When food service costs increase to the point where the quality and quantity of the food must decrease or the prices increase, raise the price of the food rather than lower the quality or quantity.

Imaginative menu planning and attractive displays go hand in hand with quality food and should be one of the most creative and enjoyable segments of a food director's job. Too many people in this business regard food as an impersonal product — a kind of untouched-by-human-hands miracle. Guests are reaching the conclusion that most menus are written without any consideration for their tastes and for their pocketbooks. This is where the artist in a food director comes into the picture.

As the preparation of food by necessity becomes more and more standardized, the menu has to become more and more creative, more and more personal. The menu you write is your key of control in the entire food operation. It reveals your interest in your job, your own personality, your desire to please your guests. People like

From a paper presented at the Association of College Unions conference, Colorado Springs, Colo., April 17, 1961.

Some profitable and worthy suggestions on

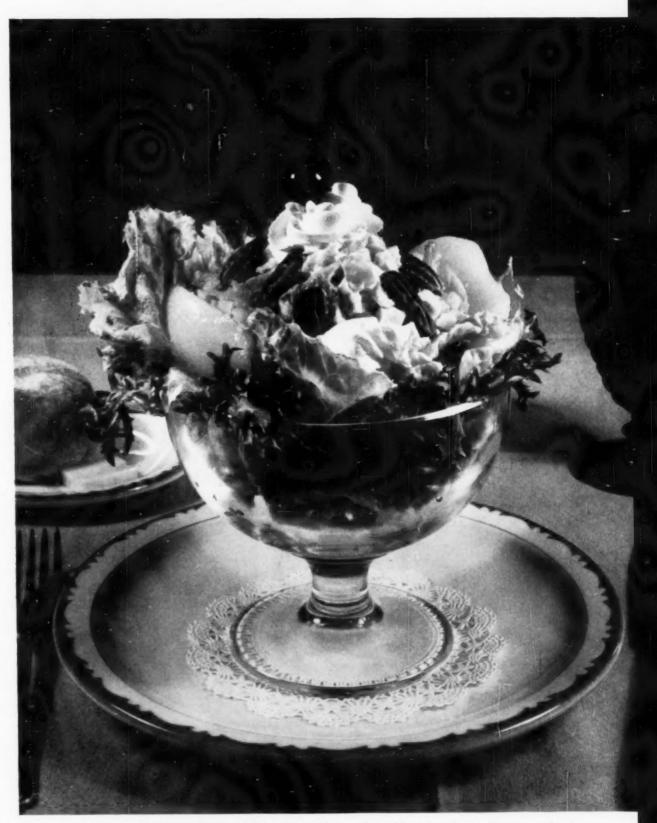


Cherry bavarian is made more attractive by serving in parfait glasses on paper doilies.

How To Put Bite Into Your Food Service

Marjorie E. Tiernan

Director of Food Service Memorial Union, University of Washington, Seattle



Supreme cups enhance the appeal of a la carte salads. Lavish use of garnishments such as whip cream, cherries, almonds, lettuce, diced fruit makes salad more appetizing. Experimenting with different containers is a good idea.



Food personnel take time to place pears in proper pattern.



Whipped cream is applied with an artist's patience and ability.



Trays are then placed on carts and taken to the various dining areas.

Salad Sequence



Bing cherries are added and salads placed on trays without crowding.



Proper position of salad is important so total food picture is appetizing.

surprises and usually are favorably impressed when they find new dishes, new names, new combinations of food, and new garnishes.

The display of food is another means we use to "romance" our campus family. The importance of attractive packaging of a product carries over to food service; in essence, we are presenting a product manufactured on our premises. Cafeteria lines are set up each day to achieve color, interest and contrast. We use a variety of attractive casserole dishes to hold hot foods, a series of glass containers to glamorize desserts.

Garnishes Important

Garnishes also play an important part to make our products irresistible. We demonstrate to our food staff the effect gained by using various containers and garnishes. Several years ago, I worked with a large industrial cafeteria concern where the food displays left much to be desired. After much discussion, I finally convinced the manager of one cafeteria to allow me to use one pint of whipping cream a day to garnish the gelatins on the counter. Prior to the addition of the whipping cream, the gelatin was selling at the rate of 15 orders a day. The following day, more than 150 orders were sold and more could have been sold had the supply been adequate. The magic wand of one pint of whipping cream, some toasted coconut, a few slivers of maraschino cherries, whipped, riced, cubed gelatin, and the use of various glassware convinced this cafeteria manager, continually worried about his food costs, that perhaps he was overlooking something - a long-profit item.

Another example of display we use has proved that "guests eat with their eyes." Rather than list our daily offerings of desserts on the service dining room menu, a pastry tray is presented to the guests by the waitresses serving them. It is very difficult for even the most calorie conscious guest to resist the array of desserts presented to him in such an attractive and personalized manner. If you haven't experimented with this "fun" part of your business, give it a whirl and be pleasantly surprised!

The courteous, friendly and efficient service so essential in any food service, and particularly in a college union, isn't accidental. Motivating a

food service staff to exemplify the "personal touch" we strive to achieve must be done through constant, patient training and an appeal to basic human needs. These needs are very much the same in all of us. Basically, they are to love and be loved; to feel important, and to be recognized for contributions that are considered valuable by management and the organization as a whole.

There is absolutely no substitute for a group of employes who "work with joy in their hearts and a song on their lips!" Through the years we have hand-picked our staff, eliminating those who have shown a continued lack of interest and a poor attitude. On several occasions we have replaced employes who were well skilled in their duties simply because we do not tolerate a poor attitude and lack of interest.

The intricasies of our varied price structures may be rather bewildering to a newcomer in our building. We realize that our building is a college union owned by the students. In short, it is their private club and they should be given every advantage as paying members in this club. Therefore, in our catering department we have three categories of price structures. The students have a choice of three price levels for breakfasts, luncheons, dinners and refreshments. The menus for faculty sponsored groups are also of three price levels, but an additional tariff is charged. For outside or conference groups, the same menu, but containing another additional charge, is available. This system has proved to be very successful and is easily explained and maintained.

In our cafeteria, we feature a la carte prices for luncheon with a choice of four entrees. The guests know that each day there will be a 40 cent entree, a 50 cent entree, a hot sandwich combination for 60 cents, and an 80 cent entree. In other words, we do not switch our price structure around from day to day depending on the food cost of the entrees offered. It is our duty to the guest who cannot afford to spend more than 40 cents for his noon luncheon entree to vary this item from day to day so that he will always have an appetizing meal.

The cafeteria dinner menu embraces both a la carte and complete

meals and permits the guest latitude in choosing his evening meal. One of the most successful innovations we devised for the evening diner is a spencer steak, cooked to order. The employe who services the salad displays and hot roll warmers takes the steak orders. A numbered flag is presented to the guest and he chooses the remainder of his dinner, pays his check, and his steak is served to him under a plastic cover at his table.

In our coffee shop the menu is fairly well standardized. Regardless of increases in the raw food cost, we attempt to maintain the same price structure for at least a full school year or as long as we can.

Other Methods of Selling

I have deliberately placed merchandising, salesmanship and publicity last in my methods of how to sell your food service. Because of my commercial experience in years past in a highly competitive field, I have been keenly aware of this important area of our business. During the last 10 years I have had the opportunity not only to work in several college unions, but to visit and observe others. I have been disappointed and dismayed at the lack of merchandising and salesmanship.

Perhaps college food directors work under the delusion that they have a captive clientele and so why bother to stimulate business. I am not content to have so-called captive clientele aimlessly wander by my door; I want them to run, not walk, to the nearest entrance, enticed by the food and pleasant hospitality they are going to encounter.

When our coffee shop, or "Husky Den," was enlarged last April, we didn't merely open the doors. We gave our guests a "grand opening" long to be remembered. There was a ribbon cutting ceremony with fanfare, a Dixieland band, and free refreshments of coffee, punch and a 300 pound beautifully decorated cake. From that day on, it is difficult to find an empty seat in the Den.

Each week, we have a Husky Den special that is advertised in a display window next to the Den as well as in the service area. We do not believe in blatant advertising or the use of company advertising in featuring these specials; this ruling forces us to be subtle and original. (Cont. p. 52)

Due to limited space, we were using a purchased sandwich in several installations which we service aside from our own building and were making sandwiches to order in our own departments. The purchased sandwich left much to be desired and the sandwich made to order was slowing down our service lines. We decided to process our own sandwich, attractively packaged in cellophane with our own printed label that reads: "Made Fresh Daily in Hub Kitchens - Bacon, Lettuce & Tomato - 50c." Within a week we were selling six times as many sandwiches as we had in the past and this volume is steadily increasing as many "brown baggers" are purchasing the sandwich rather than bringing one from home.

When the new Faculty Center opened last year, we knew we would be forced to increase the price structure we had used in the old Faculty Club, due to additional costs of operating the new center. Since this was an awkward situation, we gambled and opened with a menu format entirely different from the one that had been used before. The response was so positive that the volume has been far above our expectations. Since the center is of a contemporary modern nature, we have used streamlined plastic signboards in the color motif of the club to introduce our daily offerings to the members.

Feature Specialties

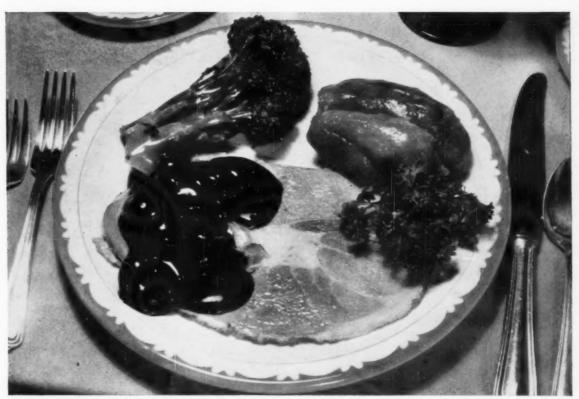
We also decided to feature desserts as "specialties" of the house and do not use them in any of our other areas. With a little promotion and salesmanship, it was amazing to note the glow of pride when a member would bring guests to dine and mention, "You must have this cheese cake pie — it is the specialty of the house."

To promote further the Faculty Center and our food service, we hit upon the idea of having a pre-football game buffet for \$1.50 per person. We sent letters to all the members and advised them to make reservations for the first buffet. Frankly, I was skeptical and mentally unprepared for the avalanche of reservations that poured in for the first buffet. The response and comments were so positive that missing the first quarter of every football game this past season was almost worth it!

We are finalizing our plans for a monthly evening buffet. To trigger this plan we have several ideas to use in conjunction with the buffet. Since the shops in the immediate vicinity are open that evening, we may



Silver service and glass plates compliment this delicious spice cake with almonds, and increases your sales and profits.



A sauce made with bing cherries adds to the taste and eye appeal of a ham dinner. Care has been exercised in the placement of garnish and vegetables for further appeal. Notice correct placement of silver. This is important.

call it a "Shoppers Buffet" or "Family Night," "Guest Night," or tie it in with an "Entertainment Night" of bridge, dancing and billiards.

Prior to the Faculty Center opening, the Evergreen Room, a service dining room in our building, was so crowded it was necessary to have a reservation to ensure a table. The Faculty Center opening drained the cream from this volume. To stimulate the use of the Evergreen Room by nonacademic staff and guests, we sent out the following letter.

"Dear Staff Member:

"Are wedding bells ringing for a bride-to-be in your department? Is the stork planning to visit a lucky gal one of these days? How about the boss who just received a grand promotion or the staff member who is keeping her approaching birthday a secret? The Evergreen Room staff of the HUB agrees with you that a luncheon party for any of the aforementioned fortunates is an excellent idea!

"Furthermore, since the new Faculty Center has opened, the Ever-

green Room can handle a reservation for any number of guests in your party for luncheon from 11:45 a.m. until 1:15 p.m., Mondays through Fridays. Just call Extension 2334 for your reservation and leave the rest to us.

Hoping to see you soon!

MARJORIE TIERNAN Food Director

"P.S. If a special decorated cake is desired, our bakeshop is blessed with a professional cake decorator who will be happy to carry out your special theme."

Results Are Immediate

The results — almost immediate! The phone started ringing and the reservations poured in as well as orders for decorated cakes, which is a new "wrinkle" for us. Today we happily report the Evergreen Room is again filled to capacity and, with some additional advertising and merchandising, we expect decorated cakes to be another personalized service we offer our campus family.

Another gimmick we use to project the personal touch is the News Bulletin that is placed on each table at 11:30 a.m. with the latest news flashes — compliments of the Hub Food Service.

Those of us in food service supervision work very closely with all food committees of students, faculty and conference groups. When the freshman class undertook a Hawaiian Luau, we wrote a menu around its theme and the experience proved to be very interesting and enjoyable for everyone.

Travel Fair week on the campus is tied in with foreign foods that we serve in our various areas to stimulate interest in this student conducted program. When the Panhellenic groups desire 800 box lunch's delivered on the campus, we rally our forces and take care of the order. When the summer school program committee plans a Salmon Roast to be delivered some miles off campus, again it is our pleasure to provide the food and equipment for this annual event.

Pre-Cut Buildings Cut Building Cost

Otterbein College reduced construction expense, saved time, and maintained the existing room charges per student with pre-engineered housing facilities for men

S. A. Frye

Business Manager, Otterbein College, Westerville, Ohio

PRE-ENGINEERED steel buildings for new, modern men's housing at Otterbein College not only held down total costs to \$10.16 per square foot, they permitted construction to start and be completed during the three-month summer vacation periods. These factors — cost and speed — made it possible for the college to build quarters for 160 students, stay comfortably within the budget, and maintain existing room charges per student.

Otterbein, a small coeducational, denominational school, had been in need of men's housing since World War II. Existing housing was inadequate and outmoded. We could see no way to meet the financial obligation of new construction without having to charge higher room rents.

It is a well known fact that at most colleges like Otterbein the tuition charged does not meet over-all operating costs. The same is true of housing, unless students are charged a high rental.

Otterbein observed that costs of conventional multistory fireproof construction ran upward from \$4000 per student. At this figure, plus operation costs, the college would have had to charge from \$500 to \$600 per year per student to make a new building self-liquidating.

Since the prevailing charge per student for existing women's dormitories was \$200, we had to construct acceptable men's housing for no more than \$2000 per student, preferably less.

Near the end of May 1959, we considered remodeling an existing building in Westerville for use as a men's residence hall. At the same time we decided to explore the possibility of adapting pre-engineered steel buildings to housing facilities. A construction company in Columbus furnished the facts, sizes and prices of standard building units. A layout was then made for 40 beds, including a lounge and the necessary toilet and mechanical equipment rooms. quick estimate showed that the building could be built and furnished for about \$1500 per student.

Two Buildings Recommended

In June, layouts and estimates were submitted to Otterbein's finance committee which recommended that not one, but two buildings — for 80 students — be built. This recommendation was adopted by the board of trustees.

After it was determined that the buildings could be delivered by July 4, erected and ready for occupancy by September 10, a contract was awarded to Ruscilli Construction Company. The college architects, Benham and Richards of Columbus, began the preparation of working drawings for the contract. It included four 28 by 80 by 8 foot and two 32

by 44 by 10 foot pre-engineered steel buildings.

The six buildings made up two separate but identical halls. Both East Hall and West Hall, as they are called, house 40 students in 20 rooms (two per room), one large lounge, a large room with bath and toilet facilities, and one utility room.

Students Enthusiastic

In the spring of 1960, after almost a school year of experience, the trustees of Otterbein College found that students were not only satisfied but enthusiastic about their quarters. We soon decided to build another, but larger, hall. Ruscilli was contacted again in April. By September the new addition was ready for occupancy. This second contract included three pre-engineered steel buildings — two 32 by 156 by 8 feet and one 32 by 100 by 8 feet. The three buildings were designed to form an "H" layout.

In the new North Hall are 40 rooms for 80 students, two lounges, two bathrooms, two laundry rooms, an office, waiting room, two utility rooms, and a large living room, kitchen, bedroom and guest room for the house resident.

At the present time Otterbein College is continuing its building program and plans to house an additional 160 students in pre-engineered steel structures during 1961.



West Hall (above) consists of two 28 by 80 foot buildings angles to them. It houses 40 students in 20 rooms, a separated by another, 32 by 44 feet, running at right lounge, bath and toilet facilities, and a utility room.

Otterbein students study and relax in their new residence halls. Rooms, 151/2 by 12 feet, accommodate two.



Modern facilities for the house resident include a living room, kitchen, bedroom and guest room.



Vol. 31 No. 3, September 1961



Flowering crabapple is a delightful tree in the spring. Colorful fruit in fall adds to its appeal and its beauty.



Burkwood viburnum is a large deciduous or semievergreen shrub. Its flowers are exceedingly fragrant.

How To Landscape for Minimum Care

Here are some interesting tips on reducing future maintenance yet keeping your school's landscape attractive

Charles O. Bell
Grounds Superintendent, Woman's College of the University of North Caroline, Greensboro



Left: American holly is a good evergreen shrub to small tree. It is hardy to New England with very few insects or diseases attacking it. Below: The willow oak, an impressive tree even in winter. It is virtually free of insect and disease infestations. This results in low maintenance costs.



SHALL we landscape the new building in an artistic manner or shall we plant low-cost, fast growing shrubs to hide it as quickly as possible?

This seems to be the paramount question in the landscape design of many college buildings and, from the appearance of older buildings on our campuses, it usually is resolved in the expedient manner of planting fast growing shrubs. The expedient results in an initial saving of budgetary money but in the long run such a planting greatly detracts from the appearance of the building and causes greater maintenance expenditures, both in time and money.

With wages constantly rising, new structures being built, and a scarcity of good laborers, maintenance staffs give considerable thought to structural details and materials of buildings so that maintenance and operating costs can be kept as low as possible. Yet the public appearance of these carefully designed buildings, the landscape, the part from which a visitor forms his first impression, and which also requires maintenance, is glossed over or neglected in the building budget.

What can be done to reduce future landscape maintenance yet keep the landscape attractive for the esthetic satisfaction of our visitors, staff and students? Many things, starting with the initial plan.

Consider Ground First

Consider first the "ground floor" of the landscape — the ground. Is it shaped properly so that most effective drainage is obtained? If it isn't, then stagnant areas will develop where future plantings will not grow properly or, on the other extreme, erosion will occur where, again, no plantings can be maintained. Install necessary catch basins and underground tile drainage to remove surplus water.

Are there steep banks that must be covered with vegetation? Grass may not grow effectively on such steep banks and they certainly are difficult, even dangerous, to mow with power mowers. Ground cover plants can be used to good effect in these places, notably English ivy and periwinkle.

Selection of grass itself can cause or minimize maintenance problems. A grass that is ill-adapted to an area through being too tender for winter

growth, too subject to fungus diseases, or not adapted to growth in an area of hot, humid summer weather can give maintenance men headaches as well as cause a financial strain on the budget through necessity of continually reseeding or spraying for disease control. The grass that is chosen should be properly fertilized because then it will withstand other environmental defects more easily.

The portion of the landscape design that is all too often self-defeating is the foundation planting. This anachronistic practice often comprises planting a conglomeration of fast growing, ill-assorted shrubs whose shapes and textures are unrelated to the environment and to each other and detracts from the appearance of the building.

Theoretically, modern buildings are supposed to be self-sufficient, to be able to stand in a location without help from other sources, requiring no added decoration. Actually, there are but few buildings whose appearance would not be improved by the artistically planned use of at least a few plants. Particularly at corners and at strong vertical building lines, the softening effects of plants are useful. The old-fashioned landscaping practice of hiding the entire foundation line of a building so that the superstructure was seen rising from a jungle was expensive to plant and even more difficult and expensive to maintain so that there was some semblance of neatness.

Corner plantings consisting of, perhaps, a small flowering tree with low growing evergreens underneath help to blend the building into the surrounding landscape and soften the effect of a sharp corner. An evergreen planting designed so that it will be in scale with the building makes an entrance more attractive. If evergreens are considered too expensive, there are now many deciduous plants that can be used very effectively. Great quantities of plants should not be used except with the largest of buildings.

Other Things To Be Considered

In selecting the plants to be used, consideration must be given to their ultimate size, longevity, resistance to disease and insects, rate of growth, and adaptation to local conditions of

soil and climate. The Norway spruce, for example, grows into a forest-size tree and would certainly not be used in a foundation planting. If a long-lived tree, free from insects and diseases, is wanted as a small flowering tree, then the flowering peaches and flowering cherries should be dismissed from our plantings and a good flowering crabapple tree or magnolia tree chosen instead.

Fast growing shrubs such as the honeysuckles need three times the pruning that most viburnums require. Even among the viburnums one must be careful in one's choice of species, for the common snowball viburnum is very susceptible to attack from aphids and often is disfigured by these insects at a time when it should look most attractive. To keep this plant attractive it must be sprayed often with a powerful insecticide.

Trees Important Aspect

Aside from the buildings themselves, the most imposing aspect of the landscape is trees. In our haste to acquire large trees we may sometimes overlook some of the things we should consider. We want a tree that grows fast and that, sometimes, is the only consideration. But is that fast growing tree going to live forever or is it going to have its weak limbs stripped off in an ice storm in 15 years? Is it uncommonly susceptible to insects that will strip it of its leaves in midsummer or deposit honeydew on all who pass beneath it? Is there a major disease that threatens to imperil the tree before it even becomes established? The rate of growth should be one of the last considerations after longevity, hardiness, form and beauty.

Plan Your Landscaping

Grounds maintenance costs can be kept at a relatively low figure and our landscapes be kept attractive if we spend as much time, proportionally, in the landscape planning stage as in the planning stage of new buildings. If proper materials are utilized, as they are in buildings, and if preventive maintenance is followed, as in building maintenance, then great renovation programs should not be necessary every few years which require a great outlay of money and result in a seedy appearing campus.

Can a Student Be Expelled Without Due Process?

Yes, say the courts, in these interesting accounts

T. E. Blackwell

Educational Management Consultant, Washington University, St. Louis

ON FEB. 25, 1960, approximately 30 Negroes, some of them students enrolled in the Alabama State College, according to a pre-arranged plan, entered as a group a publicly owned lunch grill located in the basement of the county courthouse in Montgomery, Ala., and asked to be served. Service was refused; the lunchroom was closed; the Negroes refused to leave; police were summoned, and the Negroes were ordered outside.

The following day, several hundred Negro students from the college staged a mass demonstration at a trial being held in the Montgomery County courthouse involving the prosecution of a fellow student. The next day, hundreds of students staged mass demonstrations in Montgomery and Tuskegee, Ala. On March 1, 1960, approximately 600 students engaged in hymn singing and speech making on the steps of the state capitol. The students were urged by their leaders to boycott the college if any students were expelled because of the demonstrations.

The state board of education, the governing board for the Alabama State College, voted to expel nine students and to place 20 students on probation for their part in the demonstrations. No formal charges were placed against these students, and no hearing was granted to any of them prior to their expulsion.

Six of those expelled brought an action in the United States district court under the provisions of the Federal Civil Rights Act of 1958, seeking a preliminary and a permanent injunction restraining the state board of education and the governor of the state from obstructing and hindering their right to attend college.

The following are excerpts from the opinion of the court:1

"The only real question in this case is whether these plaintiffs were accorded 'due process' within the meaning of the Constitution of the United States in their expulsion from Alabama State College.

"The right to attend a public college or university is not in and of itself a constitutional right. The right to attend and to matriculate in a public college or university is conditioned upon an individual student's compliance with the rules and regulations of the institution.

"Where there is no statute or rule that requires formal charges and a hearing, as is the case in Alabama, the prevailing law does not require the presentation of formal charges or a hearing prior to expulsion by the school authorities.

"This court is of the further conclusion that the action taken by the defendants as members of the state board of education was justified and, in fact, necessary in order that the college could operate and be operated in a proper manner. It is further concluded that the expulsion of these plaintiffs was in good faith, was in

the exercise of the authority of the governing board of the Alabama State College, and was not an arbitrary action. It necessarily follows that such an action did not deprive any of the plaintiffs of their constitutional rights guaranteed them by the Constitution of the United States.

"The pertinent observations, findings and conclusions of this court, as herein recited, are not to be construed as either an approval or disapproval of the so-called 'sit in' demonstrations; the legality of such actions is not here involved."

The courts, both federal and state, have shown reluctance to question the power of those in charge of educational institutions to discipline their students. In the eyes of the law, a schoolmaster stands in loco parentis to his students, with the rights and responsibilities of a parent. As long as the power to discipline is not exercised in an arbitrary or unreasonable manner, the courts will not restrain those in charge of the students.

A young woman enrolled in the medical school of the University of Illinois in 1949. She was suspended in May 1953. According to her statement, she was not informed of the reason for her suspension until her attorney demanded a hearing on her behalf. A year after her dismissal, she and her attorney appeared before the university committee on policy and discipline. There, she was informed by the attorney of the university that she had been suspended for submitting, as her own, two ex-

⁵Dixon v. Alabama State Board of Education, 186 F. Supp. 945 (1960).

amination papers written by another individual. No witnesses were produced at the meeting to support

these charges.

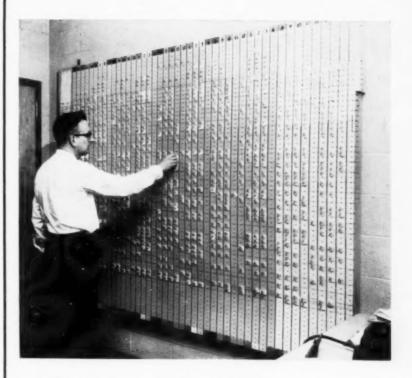
Despite her vigorous denial of this accusation, the committee recommended her expulsion. After expulsion, she petitioned the circuit court for a writ of mandamus to compel the trustees of the university to re-admit her. She claimed that she had a constitutional right to due process of law, that is, the right to a formal hearing at which she would have an opportunity to confront the accusing witnesses and to cross-examine them under oath. The circuit court declined to grant the writ, and she appealed to the state supreme court. Three years after her suspension the highest state court issued its decision.2 Judge Niemeyer, in confirming the refusal of the circuit court to grant the writ of mandamus, quoted with approval the following opinion of another Illinois court:3

In order to carry out the powers and duties of school directors, . . . no form of trial or hearing is prescribed The board of education is authorized, in a reasonable and parliamentary way, to investigate charges of disobedience and misconduct and to suspend or expel one whom they find guilty of violation of their reasonable and valid rules."

Probably the leading case on this subject came before the supreme court of Montana in 1927. A young woman was dismissed from the University of Montana without having been granted a hearing and the opportunity to defend herself. The court, after a review of virtually all of the important cases on this issue, rejected her petition for reinstatement on the following grounds:4

"The president of the university has no authority to compel the attendance of witnesses at a hearing or to compel them to testify if they were present. To hold that the power of suspension could only be exercised after a hearing had been held . . . would be to hold that the power was practically ineffective."

²People v. Board of Trustees of University of linois, 10 Ill, App. 207, 134 N.E. 2d 635 ^aSmith v. Board of Education, 182 III. App.



Schedule on the Wall

There's no more than meets the eye in this visible school scheduling

Harvey N. Roehl

Associate Dean and Registrar Broome Technical Community College, Binghamton, N.Y.

BROOME TECHNICAL COM-MUNITY COLLEGE in Binghamton, N.Y., a school with an enrollment of about 900 students and a staff of approximately 70, has adopted a plan for the scheduling of students, staff, room and time that permits quick visual reference to all information.

Basically, the system consists of a master schedule board, a rack for storage of pegs representing individual staff members, and a rack for storage of tags representing individual rooms. There is a name peg for each instructor for every hour of the week, and there is a tag for every room for every hour of the week. The entire system is color-coded by various combinations of 14 colors, which makes it impossible to schedule conflicts if coding is followed properly.

In practice, the master schedule for the entiré college is built on the master schedule board, which arranges curriculums along a vertical axis and hours of the week on a horizontal axis. Pegs, tags and small cards representing courses to be offered are taken from the storage boards and placed on the master schedule board in building the sched-

When the master schedule is completed, a quick ready reference to either of the storage boards gives the usage of both staff and space, and makes a simple matter of reporting this data for such things as utilization documents. It offers the further advantage of making it easy for individual faculty members to see how their efforts fit in with the remainder of the academic schedule.

State ex rel. Ingersoll v. Clapp, 81 Mont. 200, 263 Pac. 433 (1927); State of Montana ex rel. Ingersoll v. Clapp. cert. denied, 277 U.S. 591, appeal dismissed, 278 U.S. 661 (1928).

The California Story

Part I:

Reorganizing a Multi-Campus University

The reorganization of the administrative structure of a multi-campus institution such as the University of California is of interest to all college administrators.

In this issue, College and University Business is presenting the first of six articles on "The California Story." The material for this series was prepared under the direction of Raymond W. Kettler, vice president for finance, the University of California, Berkeley.

Mrs. Afton E. Crooks Assistant to the Vice President-Finance University of California, Berkeley

WHEN Dr. Robert Gordon Sproul became its eleventh president in 1930, the University of California consisted of the Berkeley and Los Angeles general campuses, specialized campuses at San Francisco and Davis, the Citrus Experiment Station at Riverside, and the Scripps Institute of Oceanography at La Jolla.

During the 28 years of his administration, Riverside and Davis developed into general campuses and an additional one was added at Santa Barbara. Student enrollments increased from 19,600 to 46,786. Research projects multiplied, new hospitals were built, and construction was begun on residence halls and parking structures. Endowments increased from \$16,700,000 to \$93,831,000, and total university yearly income from \$12,700,000 to \$252,565,000.

During these years of development, the university had a highly centralized administration, with major responsibility centered in committees of the board of regents and the president. Fiscal responsibility was divided among a treasurer who reported to the regents, a budget officer who reported to the president, and a controller who also reported to the regents. The controller was responsible for budgetary control, financial reporting, accounting, internal audit, and tabulating services, and accounting officers on each campus reported directly to him. By the middle Fifties, increased attention was being given to the production of more meaningful financial reports for management, and a formal internal audit program had been initiated.

In 1958, the regents accepted a plan for administrative reorganization of the university and adopted as a basic principle the decentralization of operating responsibilities to the campus level. This was the culmination of a comprehensive study of the administrative functions by the management firm of Cresap, McCormick and Paget.

The regents and the newly elected president, Clark Kerr, believed that an entirely new approach to university administration was needed and that the campuses, under strong chief campus officers, must become responsible for their own operations. A change of this nature would thus free the statewide administration for analyzing, establishing policies, and long-range planning. President Kerr expressed this theory of decentralization in his inaugural speech:

"The spontaneity, responsibility and sense of achievement which are important to our successful expansion would be thwarted by too much centralization and conformity. In practice, it is always difficult to define and achieve the appropriate balance, but, in this administration, the burden



Aerial view of site for newly approved general campus of the University of California on the Santa Cruz peninsula.

of proof will always rest with the centralizers. Nothing could be more appalling than the vision of 10 or more University of California campuses cut from the same pattern. . . ."

With the adoption of the policy of decentralization in 1958, the controller became responsible to the president, who outlined implementation work projects based on the new principles of organization. The controller assigned key personnel to a task force charged with analyzing these projects and recommending action necessary to effect implementation. The first project was to develop plans and procedures for the decentralization of accounting activities based on the following premises:

1. That the responsibility for final approval of transactions recorded in campus accounts would be vested in the chief campus officer.

2. That each campus would adhere to standard systems of accounts and accounting procedures that would permit effective budgeting and reporting at the statewide level.

That the books of account for each campus would provide for recording therein all transactions applicable to that campus.

Detailed plans were drawn up which outlined the steps necessary to adjust the accounting system so that the annual closing of the books could be accomplished on a decentralized basis. The president then informed the chief campus officers that effective Jan. 1, 1959, the campus accounting officers would be transferred to their organizational control.

This change in organization enabled the controller's office to emphasize financial analysis and control, fiscal policy development, and establishment of the procedures under which the accounting system would function. Certain key operations remained the controller's responsibility,

such as the compilation and production of a single university financial report, the maintenance of the endowment records, and the supervision of the two regional tabulating service centers at Berkeley and Los Angeles. But the main efforts of the office were now centered in developing the policies and procedures under which the accounting system and the local accounting officers would operate.

In October 1959 the controller was appointed to the new position of vice president-finance, and, shortly thereafter, the budget office and the insurance and retirement offices were placed under his jurisdiction. The controllership functions, which remained a part of the new financial office, included accounting, internal audit, systems and machine services, and a newly created division of analytical studies. The administrative reorganization of fiscal affairs was now nearly complete. An integrated ap-



University Hall, the statewide administration building for the University of California, located on the campus at Berkeley, serves all of the colleges.

proach to solving the existing and future fiscal problems facing the university could proceed more quickly and expeditiously.

Analytical Studies

The analytical studies group has initiated studies on financial operations, including comparisons with other major institutions, developed budgetary savings target formulas for the campuses, and provided workload data for use in the budget unit. The annual financial report of operations has been completely revised and enhanced in the matter of information contained, readability and economy of production. Staff assistance is given to the vice president and the president in the development of all financial statistics, uniform cost technies, and financial formats.

Possibly the most important and difficult task the group has undertaken is the development of source documents and accompanying instructions used in gathering basic data uniformly from all campuses of the university for use in studies on faculty time, faculty workload, class size, and unit costs. It is planned to use this

information for such additional studies as matriculation time, space utilization, and enrollment. These studies are far from complete, but they have already provided information on weightings as among levels of instruction and have served as useful tools in the compilation of the university budget.

In addition, the unit supplies information for many questionnaires concerning financial operations and staffing patterns, and answers requests for unit cost information from other institutions, publications and state officials, not to mention other university officials.

Budget

The budget staff has been developing a new type of budget that summarizes the campus requests in terms of major functional categories based upon "target" allocations previously determined by the president. Instruction and research are divided into schools and colleges, subordinating the detailed departmental budgets to the major headings.

The budget, after being approved by the regents, is submitted to the

governor for inclusion in the governor's budget for presentation to the legislature. When the governor's decisions have been made and the university is advised concerning his recommendations, the president makes allocations to the chief campus officers for determination of budgetary allowances to departmental accounts. When the appropriations are approved by the legislature, any changes from the governor's recommendations are reflected as budget adjustments and incorporated by campus officers into the detailed operating budget which is produced by the machine service center.

The 1961-62 budget represents a first step in the transition of operations to the ultimate goal of a longrange planning approach to budget preparations. Primary analysis has been placed at the campus level, based on guides developed by the statewide office. Enrollment statistics, student-teaching staff ratios, actual expense data, workload and unit cost comparisons between campuses have all been analyzed by the budget office in developing these guides. In the future, increased emphasis will be given to establishment of measures and standards and their application to the university budget.

General Accounting

By transferring a greater amount of responsibility for operations to the campus level, the statewide accounting office has been able to devote primary attention to development of accounting policies and procedures and to emphasize long-range financial planning. Fiscal closing has been streamlined and simplified, thus accelerating completion of the annual financial report.

Through more effective utilization of the service of machine center units, efficient methods for computation of data for periodic reports have been developed. The account code structure has been revised to permit not only a more systematic compilation of financial data, but also the assembly of information not previously obtainable. For example, financial data by school, college and institute, and expenditures by major sources of funds are provided. Also, with this revision, work is being undertaken to provide better coordination of budgetary and financial classifications and

the timely preparation of financial data for comparison with budget reports.

Among the more significant operations transferred to the campuses is the compilation of data for the annual financial report and quarterly reports to management, which are then consolidated at the statewide level for presentation.

The systems and procedures unit, as well as the accounting unit, now reports to the statewide chief accountant. This change provides a better coordination between systems and accounting aspects in the development of policy and operating procedures. The systems group provides services relating to decentralization and reorganization of the university, not only for this office but for many other administrative units. This division has worked closely with the budget office to develop more effective procedures for preparation of the annual university budget.

A modest forms control program has been conducted, which is at the present time limited to supervision and review of the design and ordering of forms directly related to the accounting function. A program of systematic review of accounting procedures with immediate emphasis on problem areas is being established, and continued support will be provided for the electronic data processing unit in systems and procedures analysis.

Assignments for internal audit are initiated generally from two sources: (1) Audits undertaken as a part of the regular program developed by the chief auditor and approved by the vice president-finance. This program is designed to bring all phases of the university's activities under review over a period of time. (2) Audits in specific areas or concerning specific problems undertaken upon request from administrative of-ficers of the university.

Machine Services

Early in 1959, the staff of the systems and machine service unit assisted representatives of a computer manufacturer in a survey of the possible applications of electronic data processing to the administrative functions of the university. It was concluded that the present punched-card system should be updated to utilize

magnetic tape machines, and that centralized services were both feasible and desirable. This preliminary study resulted in the engagement by the regents of Cresap, McCormick and Paget to conduct a more exhaustive and detailed study, which was submitted to the president in June 1960.

General implementation of the shift to an electronic system is now going forward. The organization, staffing and budget required by the demands of electronic data centers have been developed. The reorganized division of machine services has been engaged in the analysis, machine systems development, and programing necessary to convert existing manual and conventional machine data processing to E.D.P. A conversion target date of November of this year has been established. Some of the applications selected for initial processing are facilities inventory and utilization, personnel records, accounting, donor records, and registration.

Insurance and Retirement

Under the vice president-finance, the office of insurance and retirement systems is proceeding with studies in the following areas: (1) Improvements in benefit patterns provided under the regents' pension and retiring annuities system. (2) Improvement of reciprocal relationships with state employes' retirement system and state teachers' retirement system. (3) Improvement of workmen's compensation procedures and the possibility of cost saving through self-insurance. (4) Extension of insurance coverage and improvement of existing coverage for employes.

The adoption of a medical insurance program with costs to be shared by the university and the employe will be in operation by early 1962.

Internal Audit

Because of the decentralization of financial and budgetary responsibilities, audit efforts were increased in order to review for compliance with policy and established procedures. Major audit reviews have been made of cash verification and control, auxiliary and service enterprises, payroll, disbursements, student loans, and specific areas of hospital operations. Work with academic departments varies, but has included a comprehensive audit review of the colleges

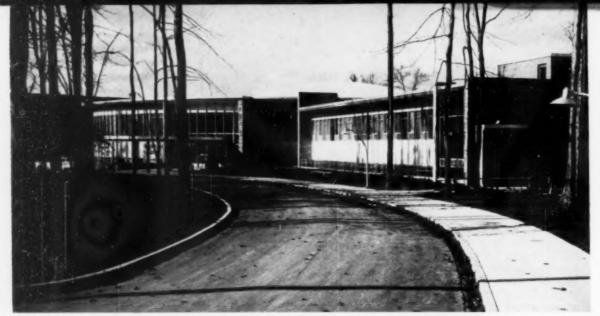
of engineering at Berkeley and Los Angeles, as well as the more routine reviews of time worked, vacation and sick leave recording.

Future Plans

While the president's major recommendations on reorganizing the financial administration of the university have now been completed, much remains to be done in the field of long-range financial planning.

- 1. Efforts will be increased to enable exchange of information with other institutions.
- Analysis of financial reports and budgets of other institutions will be continued.
- 3. Technics for comparison by areas among campuses will be expanded.
- The analyses of trends in costs and the relationship of distribution of expenditures among functions will be emphasized.
- The university financial reports will be reviewed so that they will produce the maximum in useful information.
- Close cooperation with the state department of finance and the legislative analyst will be emphasized and meaningful financial data developed for presentation to the state.
- 7. Conversion to E.D.P. will take place in November 1961, and the applicability of the electronic data processing system to all administrative areas within the university will be studied.
- The office will aim toward the constant improvement of all financial procedures.

For the last three years, the major task of the office has been to implement the financial decentralization. The university is facing a period of unprecedented growth. Three new general campuses are being developed at Santa Cruz, San Diego, and Orange County, and existing campuses are being expanded to meet an estimated total enrollment of 119,-000 by 1975. Decentralization, especially during a period of such rapid growth, is bound to be a somewhat hectic process. But there is no question of the value of decentralized operations for an organization as large and complex as this university. The alternative of continued centralization would not meet the requirements of a multicampus system.



Entrance to student center at Central Michigan University shows how oval and rectangular forms are combined.

A CAMPUS CENTER FOR MICHIGAN STUDENTS

From barbershop to banquet hall, Central Michigan University meets all the social needs of its growing student body and faculty members

> Gilbert O. Maienknecht Head, Information Services Central Michigan University, Mount Pleasant



The information desk in the main lobby controls the music that is furnished to all of the areas.

THE philosophy of functionalism and uniqueness in design are interwoven in the new student center at Central Michigan University. The building, costing \$2.1 million, is constructed in the combined form of an oval and rectangle.

Central's center has 89,000 square feet as opposed to 24,000 in its former 20 year old student union. The core of the two-story center is circular with a dome roof. This contains the social areas; a semicircular cafeteria; semicircular ballroom that will accommodate approximately a thousand dancers and 800 persons for banquets; kitchens; dishrooms; conference rooms; storage areas; a 100 seat TV lounge; arts and crafts room; coatroom; 450 seat, self-serve grillroom, and a four-chair barber-shop.

Segregating activities helps to control the flow of traffic throughout the building.

A beautifully landscaped terrace with patio extends from the grill-room with floor-to-ceiling windows looking out between the old Student Union Building and the Administration Building. The Indian motif dominates this area of the center.

The rectangular wing, extending from the circle, contains the activity areas: 12 lane automatic bowling alley; billiard room; student organization offices; student organization conference room; alumni office; restrooms; music room with listening booths; browsing room; center administrative staff offices and business office; information center, and a self-service bookstore. Control centers are located between the bowling alley and billiard room, and between the browsing room and music room.

A formal but friendly atmosphere blends itself well with a university whose student population reached the 5000 mark for the first time last year.

To give the building a more homey and relaxed atmosphere, Richard J. Lichtenfelt, director of the center, and his staff came up with some colorful names for the various rooms. The snack bar is tabbed "The Reservation," in keeping with Central's athletic nickname of "Chippewas," and the barbershop is known as the "Scalp Shop." Meeting rooms are referred to as Maroon Room, Gold Room (Central's colors), Chippewa Room, Derrick Room (in recognition of the area's oil industry), Michigan Room, University Room, and the Peninsula Room.

The center, designed by Grand Rapids Architect Roger Allen and Associates, is done largely in lannon stone, glass brick, aluminum with slate, quarry tile, ceramic tile, and paneling used effectively to highlight special areas. The main portion of the building is a large dome, with a rectangular wing extending from it.

A semicircular drive approaches the main entrance with an ample parking lot situated near by to handle parking.

The center was built in a small, time-honored wooded area at the south end of the C.M.U. campus. Planning and foresight allowed for the portion of the woods between the center and the street in front of it to be left standing, adding to the landscaping scheme.

Of all the striking features of the building, the main floor lobby probably draws the most comments. Here, walls of lannon stone surround a carpeted lounging area complete with planters and a flowing fountain. The furniture in the main lobby, as throughout the building, is Danish modern.

Greeting persons entering the front of the building is a modernistic illuminated aluminum map of Michigan with Central Michigan University boldly spelled out in aluminum across the middle of the map.

"The Reservation," located on the lower floor, is a semicircular snack bar with the outside wall constructed almost completely of glass. The Chippewa theme is carried out by wrought-iron partitions depicting Indians and by impressionistic tepees



Above: The semicircular cafeteria has floor-to-ceiling windows that look out on a beautifully landscaped terrace. Below: The 12 lane automatic bowling alley is located in the rectangular section extending from the circle.



and other Indian themes on the tile columns.

Clearly visible from the snack bar is a double-tiered stone terrace and patio that leads to the ground level on the outside.

The spacious ballroom, located on the upper floor, with its beautiful teakwood floor is also semicircular with folding walls that may be used to divide the room into four private meeting areas.

The new center replaced the 20 vear old Keeler Union which had grown too small for the university's rapidly expanding population. The old and new buildings are connected

by a passageway, however, and some of the kitchen facilities of Keeler are being used for food service in the new center. The remainder of the old student union is being converted into

a music building.

The new building is completely equipped for sound and is air-conditioned throughout. Music can be furnished to any area of the building with independent controls in every room. Control of the music or sound is located at the information desk located in the main lobby. Electric hand driers have replaced paper towels in all of the restrooms.

The structure is financed on a selfliquidating basis. Income from the users of the building, primarily students and staff, will retire the revenue bonds over a period of years.

Furnishings in the center, including carpeting, draperies and furniture, cost approximately \$80,000. One of the major equipment costs was \$150,000 for a 12 lane bowling alley and outfitting a room with billiard, pool and ping-pong tables.

Kitchen equipment for serving was not a major item as a connecting passageway was built to the former union building, making possible the use of existing kitchen facilities. Kitchen equipment for service areas cost the university about \$40,000.

The judicious use of bright colors in the decorating scheme, the functionalism of the total design, and furnishings that have warmth and character have already developed in students, staff and friends a deep sense of pride. It is truly the hub of campus life and a new era in the 68 year history of the university that started out as a business and normal school in 1892.

HOW can a business manager determine the degree of satisfactory performance in the operation of auxiliary enterprises within the college or university? With a management check list. Normally, the term auxiliary enterprises refers to income producing departments such as residence halls, food service, bookstore, parking, vending machines, and a host of similar related enterprises. A management check list can help evaluate all of the functions.

Probably the most important element for establishing a management check list (actually a performance rating) is the implementation of criteria for performance; in other words, the ground rules of the game. What do you expect from your auxiliary enterprises?

Goals

1. Are the goals of the auxiliaries clearly defined by your college or university? (a) Is the auxiliary to be a completely self-liquidating enterprise

What Price, Auxiliaries?

Some important ground rules for evaluating your auxiliary enterprises

Fred Hahn Manager, Housing and Food Service New York University that will bear the payment of all operating expenses plus amortization and interest payments on borrowings for new construction and improvements? (b) Or, is the auxiliary to assume responsibility for partial liquidation with certain costs to be borne by the college or university's general funds? (c) Or, is the auxiliary to assume responsibility only for actual operating costs?

2. If the auxiliaries are to be completely self-liquidating, should they be so by aggregate or unit?

From a paper presented at the Eastern Association of College and University Business Officers' Workshop, New York, February 1961.

3. Is each director or manager of an auxiliary given the definite set of goals or broad, general advice?

4. Is there, assuming all performance satisfactory, a vehicle for implementing change in goals and objectives if it is clearly shown that original goals and objectives cannot be reached?

Once the goals and objectives have been clearly defined by whatever executive body the college or university employs for this purpose, is there a policy group, representative of several interested groups (dean of students, business manager, deans and so forth), which is available to design the policies necessary to reach the planned objectives?

Since it is generally assumed that educational aims and business philosophy are not compatible at all times, it is important to bring those thoughts which are most divergent closer in proximity so as to ensure that the auxiliary operation is related to the most important task, namely, the educating of students. The educational aims and business philosophy should not coincide and should deter in no way from the auxiliary achieving the finest results.

Policy is not a substitute for people but it is helpful in establishing guidelines and criteria for an effective organization. People, capable people, are the main factors for making sound policy work. It has often been said that "good policy is only that policy which works."

Once policy has been determined, the business manager has a measurement for performance, a yardstick. Here are a few examples of policies that might be considered:

1. Pricing: (a) housing — academic year rates; (b) bookstores — markups and mark-downs; (c) food services — prices, range of prices, and food cost.

2. Service: (a) housing — house-keeping (making beds, providing linens, cleaning rooms, and so forth); (b) bookstore — self-service, special orders, sales of sundry items, and so forth; (c) food service — table service, counter service, or automatic.

3. Hours of Service: (a) housing

— Christmas, Easter, vacation periods; (b) bookstore — evening hours,
Saturdays and so forth; (c) food
service — hours of opening and clos-

Auxiliary directors must be aware of

ing for snack bars, week-end service, student center closing.

4. Counseling.

5. Assignments to Rooms — dean of students or business office?

Considering that your college or university has established objectives, designed policy, and has planned accordingly, what are the items, then, that can be listed as factors for a successful operation?

Satisfactory Relationships

At first glance one could point his finger at many factors, such as financial results, business records, personnel, and say this particular one is the most important factor in his management check list. But, in all honesty, in a college or university it is difficult to visualize any degree of success by your directors if they cannot maintain, generally speaking, some degree of satisfactory relationships with the many people they must deal with in the long run.

Unsatisfactory performance in any organization is usually the result of several forces working against a single attempt at some degree of performance. In no way does this imply that managers have to concede elements of their goals and objectives to make friends, but more so, that they meet their goals and objectives and not make enemies in the process.

The business manager has daily access to information pertaining to

the public relations of his auxiliary enterprise. If all is in keeping with goals and objectives the manager should be delighted; if not, he has cause for concern. However, the manager has an immediate responsibility to his auxiliary directors and that is to provide constant support on all matters of policy. His relationships, his public relations will only be as good as the degree of support the manager gives him.

Probably the most important aspect in this area is that the auxiliary directors be aware of the role they play in the university - a role in which they wear two hats: one as the head of a service unit that has the sole function of performing a much needed service and the other of being officers of the college or university always keeping in mind the over-all objectives of the university. The directors carry the major share of the burden in seeing that these objectives are met and that their staff and employes recognize their proper responsibilities as service departmental representatives and that they conduct their tasks on such a basis.

Organization

What kind of an organization has the auxiliary director put together? Is the organization made up of professional and capable people? If one considers for a moment that the type of organization the director has put together reflects the organization the business manager has put together, it then becomes apparent this is an important item on a management check list.

Do you have confidence in your directors? In your director's ability to organize and implement vital programs for the auxiliaries? Or, do you have moments of anxiety when you think of what would happen if one of your directors would quit, be fired, get sick, or die? Is there some succession in a particular director's office?

This aspect of organization is most crucial unless management has organized the auxiliary activities so that they can be self-sustaining without direction. It is important that the business manager give the maximum latitude possible for good organization and that in return he gets the best organization possible.

Include These Items

In a check list of organization one would probably want to include these items:

 Is the director's work load delegated downward so that all of his subordinates participate in the dayto-day operations?

2. Are all key members of the director's activity working as an organization contributing to both present and future planning?

3. Are all the members of the organization well informed and versed

the role they play

in the goals and objectives of the activity and of the university? Dotthey know their particular phase of the role they play?

4. Are all key members of the organization flexible? Can one member spell another in case of emergency? Is there a training program or period to provide you with a constantly improving organization?

Personnel

Almost by causal effect any topic of organization leads directly to the topic of personnel. There are some important considerations in your check list that can be considered in this area:

1. What rate of turnover does your director encounter in his key positions? There is the story of a vice president of a manufacturing concern who in one of his departments encountered a tremendous turnover in production personnel. Involved were five supervisors who were averaging four turnovers a month each. He called them all into his office one day and proclaimed that in the next 30 days the supervisor who had the highest turnover rate would be fired. After 30 days the turnover rate had dropped to zero. As the story goes, production increased 25 per cent and employe morale shot up 300 per cent.

2. Assuming that one can afford the director the opportunity to select the best men for the prescribed key positions, whom has be picked? As a business manager should one be proud of the staff the director has selected? Do the members of the staff reflect upon the office, the university, in the best possible manner? Or does management silently harbor the suspicion that some members of the staff are not capable of performing adequately or could destroy a decade of good relations by the utterance of one sentence? Although speaking in terms of relative merit the foregoing two points are a reflection on a director's judgment and management's judgment. Judgment definitely belongs on any check list.

3. If your director has had a hand in establishing personnel policies, how effectively does he administer them? Are those personnel policies effective, elastic enough to keep up with competitive trends and ensure good recruitment and selection technics?

4. Where unions are involved and the director has had a hand in policy, does he maintain satisfactory relations with the union? Or does he try to undermine your union relations with devious tactics?

5. How does an auxiliary enterprise facility director handle his personnel? Do the employes of his staff work harmoniously together or is there constant griping and evidence of dissatisfaction?

Let us now consider that a director has good public relations, good organization, and satisfactory personnel relations. The next important measurement is in the area of financial results. Under normal circumstances a budget is drafted, income possibilities and cost items have all been ascertained. Management has reviewed the budget with the director and it is then completely up to the director at least to meet the budgeted goals. However, unless one is in the extremely fortunate position of having mandatory housing and feeding and student demand that exceeds available supply, a director has his work cut out for him.

I would compare many auxiliary directors to hotel managers. A hotel manager survives only on the satisfaction of the public. A hotel is also an integral part of the community, not the focal point. If the community thrives, then the possibility for the hotel's success is high. If the community fails, it is probable that the hotel will. Likewise, the same situation exists on the campus. If the college is successful academically, the chance for the auxiliaries to be successful should be proportionate to the college's success. Empty classroom seats bring empty beds, empty dining hall seats, and full book stalls.

Financial Results

However, like the best hotel in any town which captures the largest share of even a poor market, the same can be said for a good auxiliary. If residence halls compete with off-campus facilities, dining halls with local restaurants, and college bookstores with local bookstores, only competent auxiliary management will show good financial results.

Therefore, where competition is extremely keen, a check list is a valuable measurement tool. It is with competition that customer satisfaction rises to its highest and greatest significance.

1. Do the students prefer accommodations in the residence halls, eating in the food service areas, and conducting their activities in student centers?

2. If they do, and there are no mandatory plans, what are the reasons? Good management or some other reasons?

(Continued on Page 70)

(Continued From Page 69)

3. Is the financial success of auxiliaries due to the fact that there is good management or because the institution has a captive audience?

4. If one has financial success, is it because the director is a "balance sheet" hero? (a) Does he wisely plan reinvestment? (b) Does part of his income go toward training future auxiliary staff members? (c) Is he maximizing gross income figures by too great a markup on books, too low a food cost, or by not giving enough housekeeping service in the residence halls? (d) Does his budget provide for preventive maintenance, or will the plant have to be completely overhauled a decade from now?

In essence, then, this question of the time the student spends in utilizing auxiliary services will reflect on financial results. If a college's auxiliaries are mandatory and poorly run, one will get reaction in various forms, i.e. food riots, destruction in the residence halls, unflattering articles in the student papers, and general dissatisfaction on the campus. If auxiliaries are not mandatory and poorly run, one will see the financial results in declining sales and income, lower occupancy ratios, and the inability to meet budgeted goals.

Records

Good financial results usually are the combined results of budgeting, forecasting and the implementation of changes based on current records. Each auxiliary director is normally involved in an area whereby in financial terms his activity is subjected to great "leverage." In other words, at a predetermined amount of income his activity will break even. For every increment of sales beyond the break-even point, the gross margin will increase not in arithmetic proportion, but more in a geometric proportion. Likewise, if the increment of sales falls below the break-even point, the "leverage" will be the same downward. The latter situation can be catastrophic to any budgeted anticipations.

There is only one way to combat the consequences or take advantage of leverage and that is through constant awareness of what is happening on a daily basis. What is happening from day to day can be capsuled in pertinent records. As part of a management check list, then, you want to know:

1. What records are being kept? Are they accurate?

2. How are those records being used?

3. Are they the right records? Or circular file records?

4. Do they direct the operation of the auxiliary?

5. Are they useful for purposes of future planning and budgeting?

6. Do they help explain unusual circumstances that affect operations?

Effective Participation

Although records are most necessary for day-to-day operations, there is even a greater need for records for long-range planning. Surely, as business manager one must ask questions if he is planning additions to the plant.

1. Do we need that new food service unit? That bookstore? Those residence halls?

2. Should we remodel and improve what we have?

in utilizing auxiliary services
reflects on financial results'

- 3. If so, what does the market look like now and what is it likely to look like five, 10, 15 years from now?
- 4. What community changes will take place that might affect these plans?

5. What technological advances are being made that will bring about changes in our planning?

Here is where the mettle of a director precipitously comes into the limelight. Can a director take all the particular knowledge he has amassed, couple this with current trends, and project a plan that he can use as part of his over-all planning?

Should Forecast Trends

The director should be able to forecast trends and develop a plan of action to meet those trends. The type of planning a director should be able to perform would be: (1) whether to build apartments, single or double occupancy residence halls, or no new residence halls at all; (2) type of food service: cafeteria, short order, vending machines, or no new food service at all; (3) based on what trend has been selected, he should be able to forecast a budget with reasonable accuracy and indicate any financial implications or advantages.

Once the planning has been completed, the director should be capable of working with the various internal organizations, such as plant and properties, purchasing, dean of students, and with various external organizations, such as the architect, engineer and consultants, so as to implement and ensure the completion of the project so that they will be functional and economical to operate.

The net result of our management check list up to now is to provide the business manager with a gauge of performance and an estimation of where the auxiliary director's time must be allotted. The important decision you have to make is that your director has the time and the staff to do all the jobs expected of him. The more elaborate your plans become for campus expansion the more time your auxiliary director is going to need. Your check list should serve two purposes: as a measurement of the man and his operations, and as a barometer for improvements in the auxiliary area.

Off-Campus Service by Faculty

Remuneration for consulting services raises serious policy questions for business administrators

Robert L. Williams Administrative Dean University of Michigan, Ann Arbor

HOW much outside employment should a full-time faculty member be permitted? If anything, there is no reason to assume that there will be any decline in the number of questions of this type raised in the foreseeable future. The continued mounting of business, industry and society needs probably will heighten the demand for faculty services. Administrators are going to be forced to consider the total aspects of allowing faculty to perform duties outside of the educational realm.

Not a New Problem

Of course, this is not a new problem. Many faculty members have been working at outside jobs for some time. In earlier years, this was especially true. The same thing is true today with some variations.

It is generally agreed that outside work may be beneficial both to the university and to the individual faculty member concerned. Outside employment enriches the experience of the teacher; such activities give the faculty member opportunity to keep abreast of developments in his field and to gather new ideas to enrich his teaching and research.

This is one of the best opportunities available for theory and practice to move together.

Outside employment, in the broad sense, is not limited to faculty members interested in business, science and industry. A full-time teacher of music needs an opportunity to concertize. The professor of visual arts needs the opportunity to accept commissions in his field.

Outside employment offers the university another avenue of rendering services to the state. The services rendered by the faculty member give the university an opportunity to perform the same type of services provided by the university extension service, the postgraduate medical and dental programs, which take the services of the university into the professional communities of the state.

Outside activities engaged in by the faculty call specific attention of the public to services rendered by the university in a more dramatic way than is sometimes done by teaching in the classroom.

Teaching Comes First

Care must be exercised to ensure that outside activities do not detract from the teaching and research for which the faculty member was engaged. In 1934 the regents of the University of Michigan considered this problem and recognized the potential evils and dangers in the practice of faculty members engaging in employment for remuneration from other sources than the university, but also that under certain circumstances and control, such practice may contribute to the advancement of larger objectives of the university. The regents then reaffirmed the point of view that, under certain conditions and under appropriate regulations established by the faculty, it was desirable for faculty members to engage in employment for outside agencies.

The actual by-law of the regents follows:

"Section 5.12 Outside Employment. A full-time member of the faculty shall not during the academic year be employed for remuneration by other agencies than the university except with approval of the proper university authorities. Such approval may be granted in the case of professional employment only when either or both of the following conditions exist:

"(a) When the work in question gives promise of enhancing the individual's usefulness as a teacher and scholar in his field to a greater degree than a corresponding amount of work within the walls of the university.

"(b) When the work is of a distinctly public nature or when for any other reason the university wishes to be actively engaged in its furtherance.

"In the case of nonprofessional employment, such approval may be granted only when it appears that such activity will not interfere with the performance of university duties or impair the usefulness of the individual as a teacher and scholar.

"Each of the governing faculties of the university shall formulate for the guidance of its administrative officers such regulations, appropriate to the fields represented by it, as it may consider necessary to give effect to the general policy defined herein. These regulations of the faculties shall be submitted to the board of regents for approval.

"Whenever outside employment is permitted in connection with a 'part-

^{*}It is assumed in this discussion that the part-time faculty member has entered into a carefully considered contractual relation with the university. Consequently, this article has been limited to outside employment by full-time members of a university faculty.

time' appointment, the portion of time which is engaged by the university shall be definitely stated in the apopintment contract and in the budget. (R.P. 1932-36, pp. 352-53.)"

The application of such a general directive requires careful understanding on the part of the faculty members in each school and college, and by the dean and executive committee, that have the responsibility for the application of the general rule to the specific field. One would scarcely expect to find a full-time teacher in music engaged in after-hours teach-

ing of private pupils. Faculties in schools of education have apparently accepted for many years the principle of serving as consultants to school systems for acceptable stipends as long as appropriate arrangements are made for the conduct of their formal classroom and other faculty functions in the university.

Teachers in scientific engineering fields are frequently asked to consult with outside agencies which do not have laboratory facilities for certain types of testing. In some institutions it is agreed that the laboratory facilities of the institution may be used for this type of research, with proper prior approval, provided the university is reimbursed for the cost of materials used and, in adidtion, given a sum to cover general service overhead expenses.

Can Render Service Now

Faculty members now have opportunity to render service in such a wide range or field of business, government, industry, the public schools, serving as language consultants, personnel administrators, and in many other areas which were not highly specialized in the past. Special efforts must be made by faculty members in each field, along with their administrative officers, to work out suitable arrangements under which the special know-how of the faculty may be brought to serve our society.

In recent years another complicating factor has been introduced: The volume of research conducted on the campus supported by contracts has grown to such an extent that many universities have established a formal agency for administering contract research.

Shall we now allow our faculty member to work on contract research on our own campus — in the same manner we would allow him to work off campus, including the acceptance of compensation for such research, above and beyond his base salary?

Some institutions view this suggested practice as being strongly immoral. Why? If Professor X can leave the campus and work for a day each week as a consultant to business, should he not be allowed the same privilege if the business brings the entire research problem to the university for solution and pays for all direct and indirect costs involved?

Should business be deprived of the service of a faculty member simply because the work is performed on campus rather than off campus?

Can more appropriate controls be exercised over such additional efforts if they are performed on campus rather than elsewhere?

Is there any real difference between the practice suggested and allowing the faculty member to work for a foundation – separate from the university – but which returns its capital gains to the university?

These questions seem to need further careful consideration.



FOOD FOR THOUGHT

Coffee is vended nine ways in Canteen's flavor-guarding, all-plastic cups: (1) black; (2) cream only; (3) sugar only; (4) cream and sugar; (5) extra cream; (6) extra sugar; (7) sugar, extra cream; (8) cream, extra sugar; (9) extra sugar, extra cream. And what will you have with your coffee? A meal? Sandwich? Pastry? Cigarettes? Candy? Canteen serves them all.

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One of America's
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comes from a machine
—a Canteen® Coffee machine

When coffee was first introduced to the world, at the end of the 17th century, one of its early advocates said: "It much quickens the spirit and makes the heart lightsome."

Prophetic words! Long, happy experience and hard, factual surveys attest to their truth. A *good* cup of coffee does raise morale, improve efficiency and make the job pleasanter.

and make the job pleasanter.

We say a "good cup of coffee" advisedly, because a bad cup can have the opposite effect.

What makes Canteen coffee so good? Many things, beginning with the beans themselves. They must grow in the right places, and they must be picked with care. Of the many varieties from some 43 countries, Canteen selects about seven for its vintage blend. Roasting, cooling and grinding are such critical processes that they are electronically controlled. Ultimately, however, it is the responsibility of the coffee-taster and his sensitive palate to maintain uniformity of body, flavor and aroma.

And, as you know from brewing coffee at home, the coffee-maker is just as critical as the blend. The exclusive *Autobrew* system used in every



Canteen coffee vendor measures identical amounts of coffee for each cup, brews each for the same time at the same temperature with the same water action. It will even empty coffee that has stood too long and brew fresh—all automatically.

Result: unvarying quality—a good cup of coffee every time.

Part of a country-wide, automated, 24-hour food and beverage service, Canteen coffee is supplied to suit regional tastes by local operations geared to your needs. Canteen is listed in the Yellow Pages—or use the convenient coupon for further information. Remember, only from Canteen can you get Canteen service.

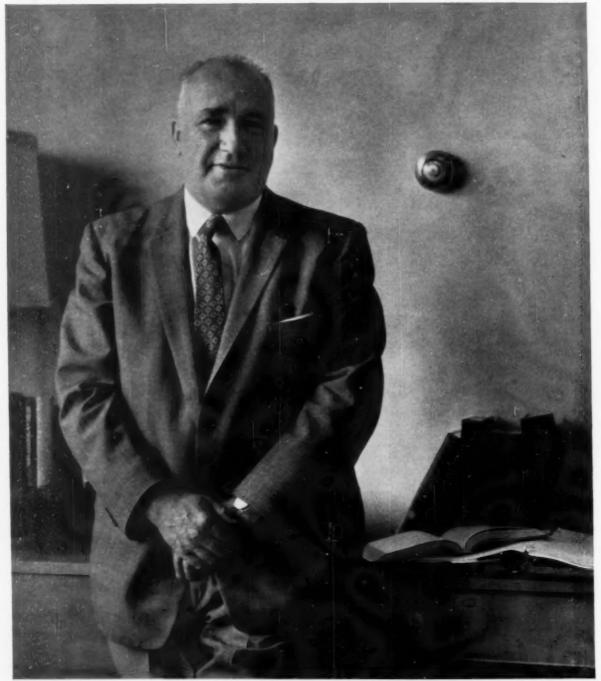


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"A thermostat in every learn faster,



"Besides providing perfect student comfort, Honeywell Thermostats complement room appearance," says Dr. Thompson.

dorm room helps students cuts heating costs" President, University of Puget Sound, Tacoma, Washington

Honeywell individual room thermostats let students adjust temperature for efficient study; eliminate expensive heat waste

"We recognized two facts in planning our new Flora B. Tenzler Hall," says Dr. Thompson. "One, students do most of their studying in their dorm rooms. Two, overly warm rooms slow up thinking and chilly rooms create distracting discomforts.

"To provide just the right temperature for faster learning, we installed Honeywell Thermostats on the wall of every dormitory room.

"Now," adds Dr. Thompson, "students set the temperature for their individual comfort. This helps them stay alert and study more effectively. And we've discovered that Honeywell individual room temperature control actually cuts heating costs.

"With old-fashioned 'zoned' temperature control systems, it's often necessary to overheat a dormitory. Then, students open their windows and expensive heat escapes. In addition, our maintenance department used to be flooded with calls to adjust temperature."

With all their advantages, Honeywell Thermostats add only 1% to 2% to the cost of a dormitory room. Pay that back many times over. For complete facts on better learning through Honeywell Temperature Control, phone your nearest Honeywell office. Or, write: Minneapolis-Honeywell, Dept. CU-9-159, Minneapolis 8, Minnesota. In Canada, write: Honeywell Controls, Limited, Toronto 17, Ontario. Sales and Service offices in all principal cities of the world.



New Flora B. Tenzler Hall's exterior design matches existing buildings. Architect: Silas E. Nelsen; Consulting Engineer: H. C. Miller of Miller, Duncan and Lynch; Mechanical Contractor: H-K Western.



In the dorm lounge, a Honeywell Thermostat automatically compensates for varying amounts of body heat. Delivers a constant temperature that's ideal for relaxation and recreation.

Honeywell



Only Honeywell designs, makes and installs all three types of temperature control for modern dormitories—pneumatic, electric and electronic.

ANNOUNCES NATIONAL PLACEMENT SERVICE

Urbana, Ill. — A well organized placement service for college and university administrators will begin operations in October. The service will be sponsored by the College and University Personnel Association as a contribution to higher education.

Dr. Charles T. Clark, president of the association, said that the service will be professionally staffed, and positions of administrative responsibility in virtually all areas of higher education will be included. Exceptions will be those concerned directly with academic administration, i.e. deans, presidents. The service will provide a central point for placement and referral for administrative and professional positions in business management, housing, food service, personnel, accounting, purchasing, public relations, admissions, student personnel administration, and so forth.

Large institutions are seeking persons to fill administrative positions in important and often highly specialized fields. Small institutions are seeking men for the positions of business manager or for multiple job combinations of a general nature. Some groups have attempted to satisfy this need on a regional basis, and certain individual associations have attempted to cope with the problem insofar as their specialized areas of interest are concerned. How-

ever, the problem is greater than efforts, thus far, can handle.

Placement service has been the object of study by the College and University Personnel Association for more than three years. The association has attempted in an informal and extremely limited fashion to fill this need. It appears, however, that only a well organized service, operating on a national basis with interests in all areas of administrative personnel, will be able to provide a satisfactory answer. The association has every evidence that the need is acute, and it has been urged by numerous persons and representatives of educational associations to accept the responsibility of getting such a service under way.

The association expects to finance the program with its own funds for a limited period at least. No charge will be made except for a small filing or registration fee for each applicant. As already noted, the association is presently carrying on a limited program in the offices of its executive secretary, Donald E. Dickason, 605 South Goodwin Avenue, Urbana, Ill. Available time and staff, however, make it impossible to increase the service materially in this office. The new program, therefore, will be fully staffed and ready to operate in October. Full details may be obtained by addressing inquiries to Mr. Dickason.

channel. The remainder of the grand total came from bequests, gifts for capital purposes, and from other sources.

The average gift through the fund jumped from \$31.93 in 1958-59 to \$34.67 in 1959-60.

The 61 reporting private universities received \$85,844,870 from alumni, or almost half the reported total. The second highest amount from alumni, \$17,583,303, was recorded by the 151 large coeducational colleges (enrollment over 750).

Students Don't Talk About Technology

UNIVERSITY PARK, PA. — Penn State students love to talk about people, like to talk about politics and education, and don't particularly care to talk about science.

These are the conclusions of a survey of 1000 speeches given by Penn State students last year in a speech course which most undergraduates must take.

Dr. Robert T. Oliver, head of the department of speech, analyzed the topics picked by the students and found that nearly 56 per cent spoke on social subjects — sociology, anthropology and history.

Political science and education figured as the next most popular topics, with 17 and 12 per cent. Seven other subjects shared the remaining 15 per cent of student speeches, with fine arts, folklore and recreation bringing up the rear. Science and technology were almost completely neglected.

A.A.C. Reports Record Alumni Giving

Washington, D.C. — Alumni giving to alma mater continues its upward trend, according to the "1959-60 Survey of Annual Giving and Alumni Support" just published by the American Alumni Council. This survey, the twenty-third in a series of annual reports, shows that 690 colleges and universities in the United States received a total of \$163,097,722 from 1,455,177 alumni in 1959-60. Also included in the survey were

100 independent secondary schools whose alumni gave \$14,297,891, and 14 institutions outside the United States (13 Canadian) which received \$1,831,261 from 30,038 alumni. The survey's grand total of alumni gifts, \$179,226,874, represents almost one-fourth (24.4 per cent) of the total gift support to the 804 reporting institutions.

Gifts to annual alumni funds accounted for a large share of the total. A record \$50,239,834 was reported from 1,458,093 alumni, or 21.6 per cent of those solicited through this

First Variable Annuity Starts Tenth Year

New York. — A total of 76,300 educators now own variable annuities issued by the College Retirement Equities Fund (C.R.E.F.), it was announced recently as the first variable annuity fund commenced its tenth year of operation. Nearly 1000 educational institutions now make the new type of annuity available to their staff members, according to William C. Greenough, president of

On July 1, C.R.E.F. reached \$196 million in assets. This total resulted from the contributions of the colleges



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Vol. 31, No. 3, September 1961

For more information, circle this page number on card facing back cover.

and their staff members toward the retirement annuities, dividend earnings on the common stocks in the fund, and capital appreciation of the assets. Currently 1020 retired college staff members or their beneficiaries are receiving annuity income benefits from C.R.E.F., according to Mr. Greenough. The dollar amount of these benefit payments changes each year to reflect the experience of the common stock investments in the fund's portfolio.

Participation in C.R.E.F. is limited to staff members of colleges, universities, private schools, and nonprofit research and scientific organizations. Up to half of the monthly contributions by the college and the individual under the college retirement plan can be placed in C.R.E.F. to provide a variable annuity, the other portion of contributions providing a fixeddollar annuity. For each payment into C.R.E.F., the educator is credited with a number of units of participation, each representing a cross section of all of the common stocks owned by the fund. When the individual retires, he receives benefits

through his remaining life with the dollar amount from C.R.E.F. in any year depending on the then current values of all the investments.

Meanwhile, at least half of the contributions under his college's retirement plan are used to purchase a fixed-dollar annuity providing a level income for life so that the combined pension has a floor under it but no ceiling over it. The fixed-dollar annuity is provided by Teachers Insurance and Annuity Association, the companion organization for educators which established C.R.E.F. in 1952.

C.R.E.F. commenced operations on July 1, 1952, with the issuance of the first variable annuity contract to Dr. Henry M. Wriston, then president of Brown University. Dr. Wriston was chairman of a special committee of educators, and financial and business experts convened to study the T.I.A.A. proposal for the new variable annuity program. The committee recommended on Oct. 5, 1951, "that a companion organization to T.I.A.A., investing its funds entirely in equities and issuing unit annuities, offers real

promise of enhancing the security of educators by providing more adequate retirement benefits and a partial protection against inflation."

C.R.E.F.'s investments on July 1. 1961, included common stocks of 76 American companies in 15 industrial classifications, according to the announcement. The largest classification was utilities, equal to 21 per cent of the portfolio, with nearly 10 per cent each in chemicals, office equipment, and oils, and lesser amounts in the other 11 industry categories. During the nine-year period there have been some changes in industry classifications and in the list of companies whose common stocks are purchased, and the total list of companies has increased from 58 to 76.5

Retirement income benefits for a person who began to receive the variable annuity income in the first year of C.R.E.F.'s operation in 1952 are now well over two and a half times as large as they were at the start.

The parent organization, T.I.A.A., was established and endowed by the Carnegie Foundation for the Advancement of Teaching and the Carnegie Corporation in 1918. Its eligibility likewise is limited to higher education, and it provides a nationwide transferable retirement system for American higher education and other staff benefit plans designed to make the teaching profession more attractive.

College Heavily Favored by High School Seniors

Los Angeles. — In spite of rising standards for admission to college, nearly four out of five high school seniors in the Los Angeles area are planning a college career, a recent survey indicates.

Dr. James H. Nelson, administrative dean (research) at Orange Coast College, has reported this finding after querying 825 students in 10 Southern California high schools for his doctoral dissertation at U.C.L.A.

Of those students replying, 77.1 per cent declared their intention of continuing their education past high school, 11 per cent planned to stop at high school graduation, and 11.9 per cent were undecided.

Even among those who did not plan college careers, a lack of interest



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The Toledo Disposer in the Ocean Reef kitchen comes in a choice of 49 models, from ½ to 3 H.P....a complete range of accessories includes silver savers and scrapping blocks.

Whether your kitchen caters to small or large volume feeding, select the right equipment to best serve your needs from the complete Toledo line. Write for Bulletin SD-3814...your first and most important step toward kitchen efficiency.





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Dishwashers . . . Fast, thorough, dependable. Available in door, counter, conveyor and rackless types. Advanced design, easy cleaning.



Hi-Speed Choppers . . . Powerful, heavy-duty designed. Outstanding in performance and appearance. Full range of models from 1/3 HP to 5 HP.

Don't put <u>skeletons</u> in *your* dormitory closets!

Ever figure out the hidden cost of equipping wardrobe closets with ordinary doors—sliding, folding or hinged? We do all the time for customer after customer. You too can compare the total *in-place cost* of actual installations. The facts below tell you how.



Ordinary closet doors require stub walls, drop ceiling, framework, plastering. Someone has to build the framing and put up the lathing (or skeleton, if you prefer). Someone else does the plastering or drywalls. A finish carpenter usually steps in to wind up the job. Result? The cost of the door is often incidental to the overall "in-place" cost!



Compare this with Glide-All Sliding Doors? They're factory furnished in any size—built to fit any space, from floor-to-ceiling, wall-to-wall. No need to custom build a space to fit a stock size door! One man installs a Glide-All door in minutes with just a screwdriver. When he's finished you have a rugged, attractive wardrobe closet at substantially lower "in-place" cost, plus doors that provide full access . . . making closet and shelf space 100% usable.

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NEWS

in higher education proved to be a small factor. Only 8.2 per cent of these students said they were "not interested."

Largest single reason given for not entering college was "going to work," 34.5 per cent; followed by "entering service," 18.7 per cent; "getting married," 12.9 per cent; and "insufficient finances," 9.9 per cent. Miscellaneous reasons made up the other 15.8 per cent.

The 10 high schools whose seniors were sampled in the survey include Bell, Belmont, Eagle Rock, Hamilton, Los Angeles, Monroe, Reseda, San Pedro, University and Westchester.

High Speed Computer at Univ. of Massachusetts

AMHERST, Mass. — The University of Massachusetts recently became the first educational institution in western Massachusetts to acquire a high-speed computer for solving complex problems encountered in scientific research.

The computer has been installed in the Goessmann chemistry laboratory, which also houses the university's subcritical nuclear reactor. The new facility will play an important role in the instructional and research program undertaken by the university. The center will also be open to other members of the Four College Cooperation group: Amherst, Mount Holyoke, and Smith colleges.

Requiring little more space than the average desk, the new computer operates under the direction of an internally stored program of instructions. It can perform in a few minutes complex engineering and scientific computations that might take months to solve by manual calculators. Advanced features incorporated in this compact but powerful computer include 20,000 digits of magnetic storage with variable field length and immediate accessibility.

The research computation center is under the direction of the university computer committee. Dr. Richard S. Stein, Commonwealth professor of chemistry, is chairman, and Dr. Robert L. Rowell, instructor in chemistry, is computer coordinator and directly responsible for the operation of the center. Dr. Rowell has announced that although the center has been in operation for a short time,



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Everybody benefits! Children "do better in school." Illness drops, attendance climbs. Teachers, parents and visitors notice a big difference when you put the Airkem program to work and bring a clean, odorless, agreeable and healthful new "climate" into the school.

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There's no mystery about it! All you do is make sure the proper Airkem product is used in its proper place in the school. Procedures are simple—and they actually save money and time by combining several housekeeping jobs in one, freeing your maintenance staff for other work. Inquire!

See opposite column for one specific Airkem benefit





AIRKEM For a Healthier Environment through Modern Chemistry

NEWS

the computer has been averaging better than 10 hours of use per day.

Interest in using the center has been expressed by more than 100 faculty members of the Four College group.

Courses are now being given in computer programing to faculty and students of the Four College group. The courses are given by Dr. Rowell and Dr. Robert Archer of the department of mathematics.

Columbia University Teaches Teachers

New York. — The Columbia University School of Engineering announced recently that it is taking an unusual step to help students in junior and senior high schools prepare to become scientists and engineers. It will begin teaching their teachers.

Classes will start this month at the engineering school for 30 selected mathematics and science teachers, who will learn one of the basic skills of the modern scientist — the use of mathematics in analyzing physical and chemical problems. The State Education Department of New York has approved the courses and will pay full tuition and fees for working teachers who qualify.

"One of the crucial difficulties in educating the scientists and engineers we need," said Professor Lawrence H. O'Neill, director of the electronics research laboratories at Columbia and chief of instruction of the new courses, "is that so many students lack a feeling for the mathematical treatment of physical ideas and situations. Often they learn a good deal of mathematics and a good deal of science in high school, but more often than not they can only use the mathematics to solve problems made up just for the purpose of being solved by mathematics, and their science is often merely a collection of descriptions of things.

"The ability to set up and solve a problem from the physical universe in mathematical terms is a rare one, but it is the foundation of modern science," said Professor O'Neill, who is a noted electrical engineer and one of America's foremost authorities on radar. "Even rarer is the understanding of when not to rely on mathematical models of physical events.

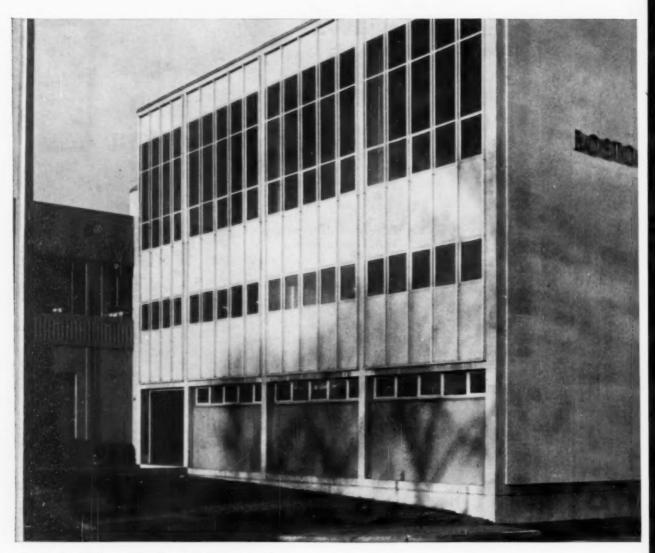
(Continued on Page 84)



Is any school official ever satisfied with conditions in the rest-rooms? Beyond question—some are. Those who utilize Airkem techniques can be justly proud of the cleanliness, the freedom from odor, the healthful environment produced in school rest-rooms through the use of three specialized Airkem products.

One is the Airkem bowl-cleaner. It quickly dissolves encrusted uric acid salts, and keeps fixtures gleaming clean without endangering metal or porcelain parts. Another Airkem product specifically counteracts urine and fecal odors. The third cleans and disinfects all surfaces - walls, floors, fixtures - and imparts an air-freshened effect without adding obnoxious perfumes or chemical smells. Acting together, these Airkem products perform the complete task, yet without imposing an additional work-load on your maintenance staff. It's a hard job made easy - a hard job well done - by Airkem! Call your nearby Airkem man.





Proof of New England Practicality:

LUPTON aluminum curtain walls at Boston University

Boston University's new Sargent Gymnasium provides an interesting example of the way you can solve problems of appearance, costs, and space with LUPTON Aluminum Curtain Walls.

As shown in the photograph, LUPTON Curtain Wall forms a strikingly modern exterior, typifying the spirit of this great university. It also aids in boosting student morale by admitting a maximum amount of natural daylight into the gymnasium's interior. The wall panels are an attractive gray, selected from a practically unlimited range of permanent colors.

ayight into the gymnasium's interior. The wall panels are an attractive gray, selected from a practically unlimited range of permanent colors.

LUPTON couples these dramatic effects with thrift and practicality. Your initial investment in these modern curtain walls is modest. The light weight of aluminum permits a lower foundation and framework expense. LUPTON wall units go up swiftly, too. You can put your building to work much sooner than if conventional materials were used.

LUPTON craftsmanship assures peace of mind. LUPTON assumes full responsibility for manufacture and assembly. Precision-made components fit tightly and align accurately under the watchful eyes of experienced field supervisors.

After installation, LUPTON Aluminum Curtain Walls continue to pay you dividends year after year. This rigid thin wall construction allows you maximum usable interior space. Maintenance is virtually non-existent.

non-existent.

See Sweet's (Sections 3 and 17) for the LUPTON Aluminum Curtain Wall and Window catalogs, and write for further specific information. Inquire about LUPTON Comfort Conditioning*—the new curtain wall system that cools, heats, and ventilates. A call to the nearest LUPTON representative (see the Yellow Pages under "Windows-Metal") will bring fast action without obligation.



Sargent Gymnasium, Boston University, Boston, Mass. Architect: Edwin T. Steffian, Boston, Mass. Contractor: George B. H. Macomber Co., Boston, Mass.

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(Continued From Page 81)

One must be able to pass into that realm of intuition from which great ideas come. Few teachers in our elementary and junior and senior high schools have the training in mathematics and science they would need if they are to cultivate this precious talent. We hope to give the teachers skill, confidence and judgment, so that they can transmit these to their students at an age when the scientific habit of mind is formed — which

is long before the student gets to engineering school or college."

The courses, called "Basic Mathematics of the Physical Sciences" and "Mathematical Description and Solution of Physical Problems," will be offered in sequence throughout the academic year starting September 28. They will be offered in the evening and will carry six semester hours of graduate credit for the year. Classes will be taught by faculty members and research staff members of the

Columbia Engineering School, and will include a review of basic mathematical concepts and operations, an introduction to advanced mathematical technics, physical and chemical problems illustrating mathematical technics, and laboratory projects in which predictions made from mathematical models may be matched against actual physical measurements. The program will be administered by Donald Barr, assistant dean of the faculty of engineering. Inquiries should be addressed to Dean Barr.

According to the state education department, any teacher admitted to the courses is assured of a grant from the state, provided that he can meet certain eligibility requirements. Among other requirements, applicants must have been regularly assigned teachers during the 1960-61 academic year, and should have had at least three years teaching experience. The applicants must intend to continue working as teachers after 1961-62, and must be recommended by their superintendent or supervising principal.

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Wartburg Alumni Support Faculty Pay

WAVERLY, IOWA. — A growing concern for better faculty salaries has led to a new project which has been adopted by the directors of the Wartburg College Alumni Association.

As the result of a resolution drafted by the association, alumni gifts will now be directed entirely to the support of faculty salaries unless specifically earmarked otherwise. Alumni support in previous years went largely into the building program of the college's physical plant.

Present plans call for the project to be implemented by Wartburg administrative personnel with the understanding that alumni gifts will go toward the direct support of the college's faculty salary budget rather than be channeled to the faculty in the form of "dividends, special rewards, or tips."

Wartburg director of alumni affairs, Robert C. Gremmels, said: "The project was adopted in the interest of coordination of alumni activities with the total program of the college."

It was felt, at the recommendation of an educational consultative agency

now studying Wartburg's total program, that it would be more effective for alumni to raise money for one item on the college budget rather than to scatter funds into several different areas.

Alumni attitudes toward the project were determined by an alumni image study conducted by the office of alumni affairs, and results indicated that this was one area of vital concern, Mr. Gremmels said.

"Alumni believe that in order to get and keep good faculty members at Wartburg, we have to pay good salaries," he added. "Our alumni seem to think Wartburg has an excellent faculty, one that should be paid accordingly."

Administrative approval of the new project came immediately.

"Your recent board action in selecting as the key project for alumni support the teaching program of Wartburg College is a source of great encouragement to all of us involved in planning the future of the college," Dr. Walter Voecks, chairman of Wartburg's board of regents, said.

The resolution adopted by the board of directors reads:

"Whereas the Wartburg College Alumni Association is committed to the support of the total program of Wartburg College, and,

"Whereas the immediate need for additional increases in faculty salaries has been an expressed concern of alumni as well as the administration, therefore,

"Be it resolved that a solicitation of contributions to an alumni fund be conducted annually, and

"Be it further resolved that this alumni fund support additional increases in faculty salaries until those salaries reach and can be maintained at an adequate level."

The association's 1961 alumni fund drive is still under way, and funds from this campaign will be directed immediately into the faculty salary budget of the college.

Few Colleges Curb Student Smoking

PITTSBURGH. — The average college student can go through school smoking like a chimney unless it affects his health or there is a danger he might burn something, according

to Dr. Douglass S. Thompson, director of student health services at the University of Pittsburgh.

Dr. Thompson recently completed a pilot survey of student health directors at 100 American colleges.

"Because so many persons either continue or increase the smoking habits they bring to college or commence smoking while in college," Dr. Thompson said, "and because smoking, while it seemingly has something to recommend it, apparently also has

liabilities — many of which are medical — I decided to try to learn what attitudes and actions colleges and college health services throughout the nation have and take in regard to smoking by college students."

Eighty-eight of the 100 schools responded to Dr. Thompson's questionnaire. Here is what he found:

1. Most of these colleges and their health services do nothing to influence groups of students' smoking habits. (Cont. on p. 87)



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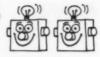
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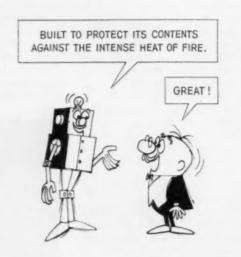
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Although most of these college health service directors endeavor to persuade a student to cease smoking temporarily when it adversely affects his health, many directors do not.

 Virtually none of the physicians answering the questionnaire denies the existence of a possible relationship between smoking and lung cancer.

 There is no apparent correlation between the smoking habits of these college physicians and their attitudes or policies about other people's smoking.

5. The attitudes and regulations relating to smoking by athletes are widely variant. Comments on the questionnaire range from saying that if an athlete were caught smoking at any time, but particularly during a sport's season, he would be dropped from the team and would lose his scholarship (if he had one), to saying that the policy in the matter was up to the individual coaches. Dr. Thompson noted that there was no apparent correlation between these responses and the athletic prowess of the various institutions represented in the survey.

6. Colleges tend to be permissive in terms of accepting tobacco advertising in student publications and in allowing cigarets to be sold in college operated facilities. About half permit tobacco companies to conduct sales promotion contests on campus, such as giving a color television set to the student housing unit whose residents bought the largest number of a particular cigaret brand during a given period.

The questionnaires were sent to student health service directors at colleges in every state of the union, the District of Columbia, and Puerto Rico. Half of the colleges were state or municipal institutions, and the other half were either private or church supported. Ninety-seven of those queried were coeducational, and all had undergraduate freshmen students. Findings were taken from a small number of colleges — about 5 per cent of those in the nation.

University Campaigns Hit New High

New YORK. — To meet the challenge of doubled enrollment by 1970, college and university fund raising

campaigns totaling more than \$3 billion are now in progress, according to the American Association of Fund Raising Counsel, Inc.

Campaigns announced by 89 colleges and universities in 1960-61 have aggregate goals of \$3,199,947,530 and include five campaigns with announced goals of more than \$100 million each. These are: University of Illinois, \$198 million; Cleveland University Circle, \$175 million; Northwestern University, \$157 million; Yale University, \$147 million; Stanford University, \$140 million.

By 1970, six million students will be seeking degree credits, nearly double the estimated three and a half million registered in the nation's 1800 colleges and universities in the fall of 1960.

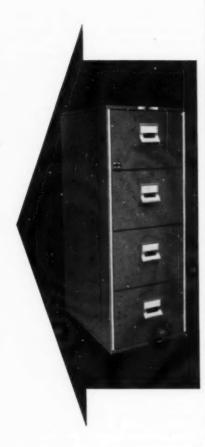
These institutions have income currently estimated at \$4.6 billion, or \$1314 per student, and expenses approximating \$4.5 billion annually. By 1970, higher education will require \$9 billion annually.

Today, approximately 16.2 per cent of annual income, or \$816 million, is in the form of philanthropic gifts in cash, goods and services. By 1970, philanthropy will be expected to supply \$2.4 billion annually, or 27 per cent.

Total philanthropic giving to all education including public, private, university and secondary education in 1960 reached a new high of \$1.3 billion. More than 60 per cent was devoted to higher education. According to the A.A.F.R.C., giving to education advanced more rapidly than any other philanthropic cause in 1960 and today approximates 16 per cent of total American philanthropy. Total giving to all causes is estimated at \$8.2 billion.

The sources of educational philanthropy are primarily alumni, individual donors, businesses and corporations, and welfare foundations. Federal contributions totaled approximately \$700 million in 1957-58, according to the U.S. Office of Education, of which 70 per cent was directed to research.

The American Association of Fund Raising Counsel, Inc., is a nonprofit organization of 29 major fund raising firms specializing in organizing, directing and counseling fund raising activities in the United States and Canada.



Auburn Library Planned for Future

AUBURN, ALA. — A new, completely air conditioned, concrete-framed, four-story library for Auburn University is planned for future addition of a fifth floor, to increase the building's total capacity from a million to a million and a quarter volumes. Designed by Davis, Speake and Thrasher, Birmingham, Ala., architects, the library is being built by Mid-South Constructors, from Montgomery, Ala. Dr.

Clyde Cantrell is the university's director of libraries.

The building is scheduled for completion by the time classes start at Auburn in the fall of 1962. The foundations and the three automatic elevators serving the building are planned so that its equipment penthouse can later be raised another story to make room for a fifth floor, smaller than the lower four but available for regular library use.

All three elevators - a pair of cen-

trally located passenger cars and a stack elevator near the front of the building — are the modern automatic "collective" type that operates without attendants. When the building is opened next year, the passenger elevators will serve all floors from the first to the penthouse or fifth. The stack elevator will operate from the basement to the fourth, but is designed to "grow" vertically to serve the fifth, when it is added.

"Underslung" rather than the more usual "overhead" arrangement will facilitate extending the stack elevator to the future fifth floor. In most electric elevators, the driving machinery is directly over the elevator car, but this stack elevator will have its machine room in the basement.

Wire ropes joining the car and its counterweight will run over sheaves at the top of the hoistway, the top and bottom of the car, and the driving sheave in the basement. This underslung arrangement makes it unnecessary to move the driving machinery when the stack elevator is extended another floor.

The passenger elevators are also underslung, but their machinery is located at the present penthouse, or future fifth floor level, which the elevators are already able to serve. Another unusual feature of the passenger cars is a keyswitch at the main floor, which the custodian may turn as closing time approaches. When he does so, persons may not ride up into the building from the first floor, but those on upper floors may call the elevators to leave the building.

Replacing a 40 year old library housing a 250,000 volume collection, the new building will accommodate a million books in the facilities now under construction, and another 250,000 when the fifth floor is added to the building.

As many as 90 per cent of the volumes will be on open shelves, readily accessible to users, according to Dr. Cantrell. The library will accommodate 2400 readers at a time, and is expected to be used by 6000 during a typical day.

The first floor of the new building will have a small auditorium, class-room, reserve reading room, a shipping and receiving department, special collections, a music library and seven listening rooms, and microfilming facilities. A study hall seating 300

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may be used even after the rest of the library is closed.

The bibliography, card catalog, circulation and technical service departments, humanities reading room, and library offices will be on the second floor; social sciences collection and reading room, seminar rooms, and staff lounge on the third; and reference services and biological and physical sciences areas on the fourth.

The new library is rising on Auburn University's 420 acre main campus, already dotted with 19 academic buildings, in addition to residence halls and a stadium. With an annual enrollment of slightly more than 11,000 and an academic staff of 900, including 650 who actually teach, the university has nine schools: agriculture, architecture and the arts (oldest in the South), chemistry, education, engineering, graduate studies, home economics, pharmacy and veterinary medicine.

Now part of the Alabama state system of higher education, Auburn was opened in 1856 as the East Alabama Male College. In 1872 it became a land-grant college and was renamed the Agricultural and Mechanical College of Alabama. It became the Alabama Polytechnic Institute in 1899 and received its present name in 1960.

NAMES IN THE NEWS



Donald W. Brown

Donald W. Brown, professor of industrial administration at Iowa State University, Ames, has been elected president of the Iowa Control of

the Controllers Institute of America. At the annual meeting of the institute's Los Angeles Control, Paul A. Walgren, controller of the University of Southern California, was named assistant secretary.

Dr. John Stephens, former chairman of the English department, will be the new dean of the college of arts and sciences at Emory University, Atlanta, Ga. He succeeds Dean William C. Archie, who has accepted a position as director of higher education in the state of North Carolina.

The Very Rev. Francis William Kearney was named president of St.

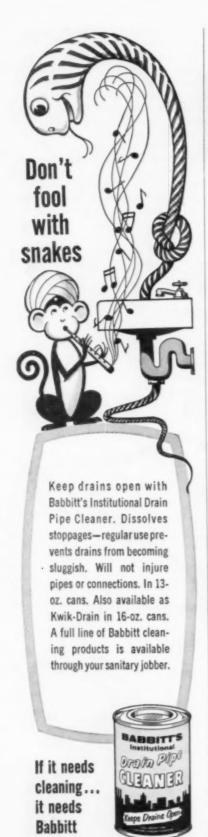
Bonaventure University, St. Bonaventure, N.Y. He was formerly head of the House of Studies of St. Francis' College, Rye Beach, N.H. Father Kearney succeeds the Very Rev. Brian Lhota, president since 1955, who will become prefect of studies in New York City of the Franciscan Order's Holy Name Province.

Joseph J. Copeland will be inaugurated as the seventh president of Maryville College, Maryville, Tenn., October 28. He succeeds Ralph Waldo Lloyd, who was elected president emeritus.

Dr. Everett Case, president of Colgate University, Hamilton, N.Y., will succeed Alfred P. Sloan Jr. as president and chief executive officer of the Alfred P. Sloan Foundation. The foundation makes grants for cancer and other research and for educational, scientific and engineering projects.

John P. Loftus, professor of law at the Seton Hall University School of Law in Newark, N.J., has become dean of the school. He succeeds Dr. Miriam T. Rooney, dean of the school since it opened. She is de-





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voting more of her time to writing and will remain as a research profes-



J. C. Wagner Ind.

Dr. Richard W. Burkhardt is now vice president of instructional affairs and dean of faculties at Ball State Teachers College, Muncie, Ind. J. C. Wag-

ner has been appointed vice president of business affairs and treasurer of the college.

Kenneth B. Morris, architectural engineer and construction executive, has been appointed director of New York University's plant and properties division.

George F. Baughman, vice president for business affairs and treasurer of New York University, has resigned from his post, effective October 1, to accept the presidency of the New College in Sarasota, Fla. The college will open its doors for the first time in 1964.

Dr. Felix Morley, noted former newspaperman and educator of Gibson Island, Md., has received the 1961 William Volker distinguished service award of \$15,000. Dr. Morley, who retired from the position of president of Haverford College, Haverford, Pa., in 1945, is currently the chairman of the trustees of the Institute for Social Science Research, Washington, D.C.

John Halliwell II, director of development at Tufts University, Medford, Mass., since 1954, has been named director of development at Pine Manor Junior College, Wellesley, Mass. He assumes his new duties this month.

Richard J. Sullivan, assistant professor and assistant director of physical education at Hofstra College, Hempstead, N.Y., is now the assistant dean of students at that institution.

James L. Miller Jr., a former official in higher education and state government in Kentucky, has been named associate director for research for the Southern Regional Education Board. He succeeds Dr. John K. Folger, who has resigned to become dean of the graduate school at Florida State University, Tallahassee.

Dr. Thomas P. Whelan of Mount Carroll, Ill., has been appointed dean of men and instructor of graduate classes in physical education at Ne-

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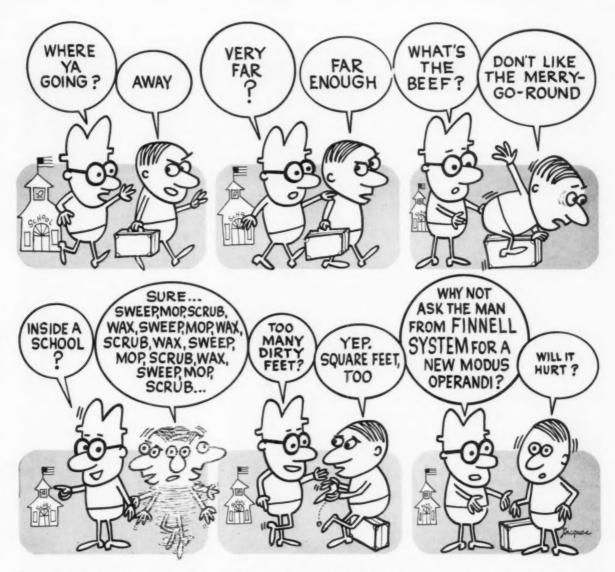


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braska State Teachers College, Kearney.

The Rev. Edward J. Burke is the new president of St. John's University, Jamaica, N.Y. He succeeds the Very Rev. John A. Flynn, president of the university since 1947.

David S. Dungan is the new dean of men at the College of Emporia, Emporia, Kan. He succeeds the temporary dean of men, Herman Arrasmith, the dean of students.

Dr. Edwin C. Nelson assumed the duties of dean of the college at Nebraska State Teachers College, Chadron. He succeeds Dr. Glenn W. Hildreth, who retired.

William W. Caudill, partner of a large architectural firm, has been appointed chairman of the department of architecture at Rice Institute, Houston. He will assume full responsibility for the administration of the department and the teaching program.

Arthur T. Thompson, associate director of the Ordnance Research Laboratory at the Pennsylvania State University, has been named associate dean of the college of engineering and architecture. He succeeds Albert H. Jacobson Jr., who resigned earlier this year.

Wilmer E. Burget, a member of the Purdue University staff for 14 years, is the new purchasing agent. He succeeds D. F. Finn, who was ad-



Wilmer E. Burget

vanced to business manager and assistant treasurer of the university. Mr. Burget was formerly the assistant purchasing agent for foods at the institution. He is succeeded in that position by Edgar R. Parks, formerly administrative assistant to the regional administrator of the Kaiser Foundation hospitals.

Dean Nay has become the director of food service at William Jewell College, Liberty, Mo. He succeeds





Dean Nay Robe

Robert E. Vaughn

William Harvey, who entered private business. Robert E. Vaughn was appointed assistant director of food service at the institution.

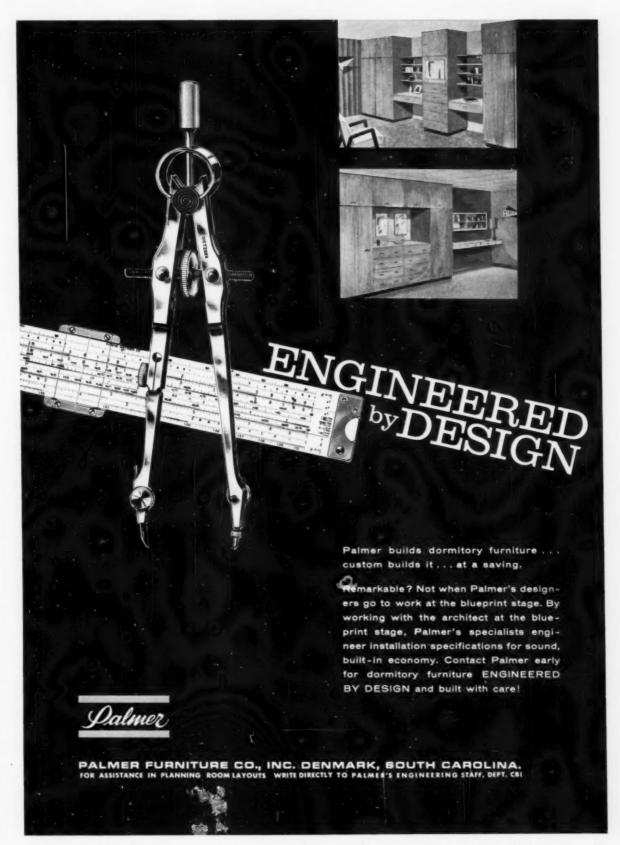
William F. Christoffers, director of the division of accounting methods in the office of the controller at the Pennsylvania State University, has been named deputy controller of the university.

Dr. William M. Birenbaum, an assistant vice president at Wayne State University, Detroit, has been named dean of the New School for Social Research, effective this month. He succeeds Clara W. Mayer, who has served since 1943 as dean of the nation's first university for adults.

Stephen Crane Carroll has been appointed associate professor of architecture-planning at Columbia University's school of architecture. Mr. Carroll is widely known as an expert in city and regional planning.

Dr. Lucile Allen has been named dean of women and associate professor of education at Stanford University, Stanford, Calif. She will succeed Elva Fay Brown, who has served as dean of women for 15 years. Dr. Allen at present is an educational con-







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sultant at Austin College, Sherman, Tex. She was dean of Chatham College, Pittsburgh, from 1952 to 1959.

Ralph Naragon, former staff accountant with Ernst and Ernst. C.P.A.'s in Indianapolis, has been appointed assistant business manager of Manches-



Ralph Naragon

ter College, North Manchester, Ind. He succeeds Wilbur Barnhart, who retires from that position this sum-

Dr. Robert D. Pease, associate dean of Rochester Institute of Technology's evening college, Rochester, N.Y., has been named dean of the college. He succeeds Burton E. Stratton, whose health has forced him to resign.

Lawrence E. Dennis has resigned as vice president for academic affairs at the Pennsylvania State University, effective September 30, to accept appointment as an associate director of the Peace Corps in Washington, D.C.



Gerald W. VonderBrink has been appointed controller of the University of Dayton, succeeding William G. Slonaker, who has joined a commer-

cial concern. Mr. VonderBrink was formerly controller at the College-Conservatory of Music, Cincinnati.

Frank Noffke, formerly vice president of College Planning Associates, Inc., Kalamazoo, Mich., has been named director of the union and head of campus planning and institutional research at Baldwin-Wallace College, Berea, Ohio. Prior to his present connection. Mr. Noffke had been director of Memorial Union at Washington State Universilty, Pullman, and director of the union at Case Institute of Technology, Cleveland.

Mother St. John O'Brien has been appointed president of New Rochelle College, New Rochelle, N.Y. A former Superior of the Ursuline Nuns of the college, Mother St. John has been a professor of mathematics and director of students.

A. E. Marien, staff auditor at the University of Illinois, has been elected vice president of the newly or-



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38 Newbury Street Boston 16, Mass. ganized Central Illinois chapter of the Institute of Internal Auditors. J. B. Walker, internal auditor of Illinois State Normal University, was elected governor for a two-year term as well as assistant program chairman.

David A. Robertson, president of Goucher College, Baltimore, from 1930 to 1948, died recently at the age of 80. He had been president of the Middle States Association of Colleges and Secondary Schools and a director of the American Council on Education. George A. Brakeley, former vice president and treasurer of Princeton University, died of a heart attack at the age of 76.

Dr. John C. West, president of the University of North Dakota, Grand Forks, from 1931 to 1954, died recently. He was 75 years old.

Nancy Duke Lewis, who recently retired as dean of Pembroke College, the women's college at Brown University, Providence, R.I., died at the age of 50. Miss Lewis had been dean of the women's college from 1950 to early this year.

DIRECTORY OF ASSOCIATIONS

National Federation of College and University Business Officers Associations

President: Wilbur K. Pierpont, vice president, University of Michigan; secretary: C. E. Prothro Jr., Tuskegee Institute.

Association of College and University Housing Officers

President: Fred A. Schwendiman, Brigham Young University; secretary-treasurer: A. Thornton Edwards, Kansas State University.

National Association of Educational Buyers

President: Elmer Jagow, Knox College; executive secretary: Bert C. Ahrens, 1461 Franklin Ave., Garden City, N.Y.

National Association of College Stores

President: John Galbraith, University of Miami Bookstore, Coral Gables, Fla.; general manager: Russell Reynolds, 55 East College Street, Oberlin, Ohio.

Convention: April 23-27, Hotel New Yorker, New York.

National Association of Physical Plant Administrators of Universities and Colleges

President: Richard Adams, Oregon State College; secretary-treasurer: John H. Sweitzer, Earlham College, Richmond, Ind.

American College Public Relations Association

President: Lyle M. Nelson, Stanford University: executive director: Frank L. Ashmere, 1785 Messachusetts Ave., Washington 6, D.C.

Association of College Unions

President: Floyd I. Brewer, University of Cincinnati; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.

Convention 1962: Purdue University, West Lafayette, Ind.

Associations of College and University Business Officers

American Association

President: I. T. Creswell, controller, Fisk University, Nashville, Tenn.; secretary: C. E. Prothro Jr., Tuskegee Institute. Convention: May 3-5, 1962, Fisk Univer-

sity.

Central Association

President: Ralph Olmstead, Evansville College, Evansville, Ind.; secretary-treasurer, James J. Ritterskamp Jr., Illinois Institute of Technology, Chicago.

Technology, Chicago. Convention: June 13-15, Kellogg Center, Michigan State University, East Lansing.

Eastern Association

President: Richard D. Strathmeyer, Carnegie Institute of Technology, Pittsburgh; secretary-treasurer: Kurt M. Hertzfeld, Boston University.

Convention: Dec. 3-5, The Warwick, Philadelphia.

Southern Association

President: Trent Root, Southern Methodist University; secretary: Clarence Scheps, Tulane University.

Western Association

President: Robert B. Gilmore, California Institute of Technology; secretary: H. S. Thomson, University of California, Santa Barbara.

Convention: April 29-May 2, 1962, Mark Thomas Inn, Monterey, Calif.

Canadian Association of University Business Officers

President: M. C. Tillotson, Queen's University; secretary-treasurer: D. S. Claring-bold, treasurer, Hart House, University of Toronto.

College and University Personnel Association

President: Charles T. Clark, University of Texas; executive secretary: Donald E. Dickason, University of Illinois. Permanent headquarters, 605 S. Goodwin Ave., Urbana, Ill.

American Alumni Council

President: Waldo Johnston, Yale University; executive director: Ernest T. Stewart, 1707 N Street, N.W., Washington 6, D.C. Convention: June 24-28, Banff Springs Hotel, Banff, Alta.

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POSITIONS WANTED

Business Executive — Now employed, seeks permanent association with college planning future growth; teaching and/or administrative position; some teaching experience in business subjects; age 55; MBA Harvard Graduate Business School. Write to Box CW 626, COLLEGE AND UNIVERSITY BUSINESS.

Business Executive — With 25 years experience and considerable imagination seeks permanent position in southern college planning future facilities and supervising new construction and maintenance; built 2,000,000 square feet of industrial facilities here and abroad; age 47; B.S. in M.E. Case Institute. Write to Box CW 641, COLLEGE AND UNIVER-SITY BUSINESS.

Business Manager, Controller, Internal Auditor — Mature B.S., M.B.A., C.P.A. seeks responsible position wherein his 25 years of diversified heavy experience in accounting, budgeting, auditing, systems, finance will be of value; also offer light experience in teaching accounting, auditing, budget control, work simplification at college level (nights). Write to Box CW 638, COLLEGE AND UNIVER-SITY BUSINESS.

Business Manager-Purchasing Agent — Fourteen years experience in business with nationally known mercantile concerns; extensive background in purchasing, systems procedures, budgets and financial forecasting; university graduate with Degree in Business Administration; age 41, married, three children; complete resumé and references available. Write to Box CW 623, COLLEGE AND UNIVERSITY BUSINESS.

Business Official — Available immediately; long experience as bursar, purchasing agent, bookstore manager and in public relations, especially promotional activities. Request complete personal history from Box CW 640, COLLEGE AND UNIVERSITY BUSINESS.

Business Officer — Six plus years experience all phases of college financial and personnel management; construction, dormitories, food services, buildings and grounds; Master's Degree; age 36. Write to Box CW 630, COL-LEGE AND UNIVERSITY BUSINESS.

Chef, Manager Cafeteria — White, age 50; accomplished baker; desires Christian college atmosphere; plan menus, purchase; no smoke, drink; salary open; currently available. Write to Box CW 633, COLLEGE AND UNIVER-SITY BUSINESS.

Director, Food Services — Presently employed; graduate accredited hotel school; objective to contribute my knowledge to a position expressing a greater potential; several years experience equips me with the understanding of planning, organization and efficient management of large and multiple operations; have reputation for serving fine foods; ability to render an outstanding service; excellent references; prefer private college; relocate. Write to Box CW 642, COLLEGE AND UNIVERSITY BUSINESS.

Director of Housing and Food Service—Graduate Cornell School Hotel Administration; eight years successful hotel management including complete supervision food departments; experienced personnel training, budgeting, cost controls, maintenance high standards; Lieut. Comdr. USNR Supply Corps; presently employed; details on request, Address Box CW 634, COLLEGE AND UNIVERSITY BUSINESS.

Director, University Press or Services — Age 47; ten years experience in fund raising, public relations, bookstore management, post-office, and auxiliary services; familiar with budget preparation, trustee reports and comptrollership. Write to Box CW 618, COLLEGE AND UNIVERSITY BUSINESS.

Maintenance Engineer — Supervising maintenance and custodian, 17 years; janitor crew, pipe fitting, electrical, plumbing, air conditioning, heating, machine shop etc., now employed; age 41, married, A-1 health; 2 years college; prefer south with college or university. Write to Box CW 624, COLLEGE AND UNIVERSITY BUSINESS.

Physical Plant Administrator — 15 years experience in buildings and grounds maintenance including all building trades and power plant operation; five years experience in new college building construction and planning; personnel selection; purchasing and budget preparation; college education plus added business subjects; prefer small college. Write to Box CW 643, COLLEGE AND UNIVER-SITY BUSINESS.

Superintendent Maintenance and Operation— Formerly at liberal arts college, desires position with physical plant department at a southern college or university; B.S.; 38; experienced in all phases of physical plant administration. Write to Box CW 639, COL-LEGE AND UNIVERSITY BUSINESS.

Supervisor of Campus Security — Retired New York City police lieutenant, age 46 years, married, five children, desires campus police job, preferably as supervisor; will live on campus; education of family is chief motivation. Write to Box CW 628, COLLEGE AND UNIVERSITY BUSINESS.

POSITIONS OPEN

Accountant — In small private New England coeducational liberal arts college, Please give education, experience and salary requirement in replying to Box CO 419, COLLEGE AND UNIVERSITY BUSINESS.

Accountants — College degree with major in accounting; age to 30; salary commensurate with general qualifications. Send resumé to Associate Comptroller, ARIZONA STATE UNIVERSITY, Tempe, Arizona.

Assistant Director — Continuing education; liberal arts and business background; experience in organizing adult education programs desirable. Send resumé and references to the Steinbruegge, UNIVERSITY OF DAYTON, Dayton 9, Ohio. Indicate salary range.

Assistant Business Manager — To supervise accounting and business office and do some purchasing in college of 2500 in northeast; college degree in accounting or business administration with college accounting experience and some purchasing; age and salary open; send complete resumé with picture. Write to Box CO 421, COLLEGE AND UNIVERSITY BUSINESS.

Assistant to Treasurer — A highly-regarded midwestern liberal arts college presents a challenging opportunity to man, age 28-35, with B.A. Degree and experience in accounting. Please furnish resumé, photograph and references to Box CO 416, COLLEGE AND UNIVERSITY BUSINESS.

Bookstore Manager — For small growing private college; prefer someone capable of assisting in other purchasing areas also; send resumé, salary required, and date available. Reply to Box CO 412, COLLEGE AND UNIVERSITY BUSINESS.

Bookstore-Manager — Large midwestern university planning new enlarged bookstore has opening for young experienced manager to assume active management of present operation and assist with plans for new facility; the man for whom we are looking is probably the assistant to an outstanding manager. Send resumé with picture to Box CO 414, COLLEGE AND UNIVERSITY BUSINESS.

Business Officer — Splendid opportunity to join leading Chicago firm of college management and fund counsel; age 30-40; minimum five years experience in college or university business office; accounting background; strong in math. Write to Box CO 409, COLLEGE AND UNIVERSITY BUSINESS.

Director of Housing and Food Service — Salary open; need graduate with training in institutional management to supervise operations of dining halls and dormitories; state college approximately 2,500 enrollment; located in northwest. Contact Box CO 418, COLLEGE AND UNIVERSITY BUSINESS.

Director of Plant and Operations — Ohio college wishes to employ excellent man with substantial experience in supervision of mechanical services, custodial and housekeeping services, maintenance, repairs, minor construction, groundskeeping, etc.; excellent position in extensive plant in small community. Send complete resumé to Box CO 420, COLLEGE AND UNIVERSITY BUSI-NESS.

Housing Director — Opportunity for experienced man to participate in planning, construction, and management of extensive domitory and apartment building program at large mid-western urban university. Send resumé with photo to Box CO 410, COLLEGE AND UNIVERSITY BUSINESS.

Operations Supervisor — For private New York City teachers college; manage cleaning, security and other unskilled personnel; study and report on physical plant problems; assist in decorating and refurnishing projects; responsible for personnel, training, records, and numerous other management functions; some plant planning activity; good opportunity to work with team of school plant specialists, and to secure advance degree(s) in school business administration; benefits commensurate with background and potential. Write to Box CO 417, COLLEGE AND UNIVERSITY BUSINESS.

Trainee Business Manager — Wisconsin State College Program; training on-the-job in central coordinating office and college business offices and then permanent assignment at one of Wisconsin's rapidly expanding state colleges; eventual responsibility to the college president and for all business office and physical plant procedures; particular emphasis on budget, accounting, purchasing, personnel and plant management; need accounting or business administration degree and prefer some relevant experience. Write: BUREAU OF PERSONNEL, 720 State Office Building, Madison, Wisconsin.

1 billion germs died here last night

DI-CROBE® cleans, deodorizes, disinfects . . . all at once



Just two ounces of Di-Crobe in a gallon of water produces a most-effective germicidal cleaner. One product effectively takes the place of two. It's a high-quality detergent too-leaves no soap film. Write for the name and address of the Huntington representative nearest you.

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HUNTINGTON E LABORATORIES . HUNTINGTON, INDIANA

Philadelphia 35, Pennsylvania • In Canada: Toronto 2, Ontario

WHAT'S NEW

LOOK inside back cover for Postage Paid inquiry card for more information.

Cluster Combination Desk Serves Many Purposes



A newly designed surface, which allows maximum flexibility, is introduced in the Brunswick Cluster Combination Desk. consisting of a working surface in trapezoidal shape with a gentle curve in the student side, and a one-piece attached chair, and serving as an individual work and seating area, or for clustering in groups of four for teamwork. Brunswick Corp., School Equipment Div., 2605 E. Kilgore Rd., Kalamazoo, Mich.

Stainless Steel Fountains In Several Models

Included in the new line of stainless steel drinking fountains introduced by



Halsey Taylor are face-mounted walltypes as well as counter-type fixtures, all units featuring modern appearance, ease of maintenance and lifetime service. Halsey W. Taylor Co., Warren, Ohio. For more details circle #778 on mailing card

Tri-Dolly Mopping Team For Efficient Maintenance

The new Tri-Dolly mopping team fea-tures automatic and controlled changing of solutions and rinse water, and components which can be used individually for any floor cleaning requirement. Floor pick-up is never added to buckets con-



taining solution and rinse water, thus eliminating contamination. Market Forge Co., Everett 49, Mass.

more details circle #779 on mailing card.

Line of Collators

Features Ease of Operation

Cutler is now manufacturing a line of collating and mail inserting equipment which will collate material with assorted enclosures at speeds up to 4,000 cycles per hour, and insert the enclosures into envelopes if desired. Cutler Mail Chute Co., 76 Anderson, Rochester 7, N. Y.

DynaZoom Microscopes Give Continuous Magnification

Created for laboratory use in educational institutions, hospital laboratories and other areas of quality control, the new DynaZoom Microscope line has a

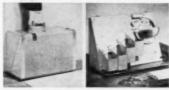


completely integrated zoom optical system which eliminates image blackout and focus shift, while permitting continuous magnification within the entire range of the instrument. Bausch & Lomb Inc., Rochester 2, N.Y.

For more details circle #781 on mailing card.

Portable Electric Change Unit Is Counter and Sorter

Model CS-100A, an electrically-operated change counter-sorter which features low price with portability, has only two moving parts other than the motor, and



automatically counts and sorts 15,000 coins per hour, handling pennies, nickels, dimes and quarters, with half-dollars remaining in the hopper. Standard Change-Makers, Inc., 422 E. New York St., Indianapolis 2, Ind.

re details circle #782 on mailing card.

Wide-Louver Verticals for Large Window-Walls

Aluminum Wide-Louver Verticals for large window-wall areas and curtain wall construction are added to the Flexalum line of window-treatment materials. The 3% inch aluminum louvers are well proportioned and present a tailored appearance in modern buildings. The reflective properties of aluminum provide a yearround thermal curtain, reflecting solar

heat in summer and preventing radiation from large glass areas to improve comfort and reduce heating costs in the winter.



The baked enamel finish and vertical position make the louvers virtually dustproof and easy to maintain. They can be rotated to any position for privacy and light control, or drawn back compactly for access to the window. Hunter Douglas Div., Bridgeport Brass Co., 30 Grand St., Bridgeport 2, Conn.

more details circle #783 on mailing card.

Dormitory Furniture Now in Special Designs

A new department offering design, en-

gineering and manufacturing services on all types of special dormitory furniture requirements, such as the special bunk/ study unit illustrated, which was designed for a university dormitory, is now offered



Desks of America, Inc., P.O. Box 6185, Bridgeport 6, Conn. For more details circle #784 on mailing card.

Attractive Styling in "Century Seat"

Attractively styled for use in laboratories, offices, housing, reception rooms, lunchrooms and other areas where special decorative effects are planned, the new lightweight "Century Seat" is constructed of high density polyethylene on a sturdy two-piece tubular steel chair frame with grill back, chrome-plated or



Bronzite metal finish. The Howell Co., Div. of Acme Steel Co., St. Charles, Ill. Fer more details circle #785 on mailing card. (Continued on page 100)

Portable Overhead Projector Folds into Self-Contained Unit



Combining complete portability with standard overhead projector features, the new 3M model folds into a single, selfcontained unit, easily carried from place to place and quickly set up, ready for instant operation. Also new to the 3M line are an extra quality film designed to provide improved performance in the overhead projector, with greater handling ease, and a new color lift film which permits making a four-color transparency in about two minutes, at minimum cost. Minnesota Mining & Mfg. Co., 900 Bush Ave., St. Paul 6, Minn.

For more details circle #786 on molling card.

Anti-Slip Factor in Simoniz Floor Finish

Designed for extra safe care of all resilient and hard floors, Super Anti-Slip Floor Finish incorporates the Simoniz "Ladium Formula," an anti-slip factor which does not affect the full luster,

hardness and durability of the finish. Simoniz Co., 2100 Indiana Ave., Chicago 16. For more details circle #787 on mailing card.

Redesigned Containers Retain Familiar Trade Mark



The checkerboard, always a part of Hillyard package designs, is retained as the familiar blue and white trademark even though every container, from pints to 55-gallon drums, has been changed to a new, modern design. Hillyard Chemical Co., 403 N. 3rd St., St. Joseph 1, Mo. for more details circle #788 on mailing card.

Headliner Door Control Is Concealed Overhead

A highly efficient door control for any slim doorway head jamb or transom bar, the Headliner Concealed Overhead Door Control has no visible hinges, closers, arms or holders. Dor-O-Matic Div., Republic



Industries, Inc., 7350 W. Wilson Ave., Chicago 31.

Remote Control System

for Vega-Mike Wireless Microphone

The Vega-Mike Wireless Microphone

The Vega-Mike, a transistorized FM wireless microphone system designed for dependability and good performance without an interconnecting cable, includes an FM Transmitter which serves as a self-contained miniature FM broadcast station for unrestricted mobility, and the Vegatrol radio-operated relay, which, when connected to the receiver, provides instanta-



neous switching of up to four other devices or circuits to clear for special announcements. Vega Electronics Corp., 10781 N. Highway 9, Cupertino, Calif. For more details circle #790 on mailing card. (Continued on page 102)



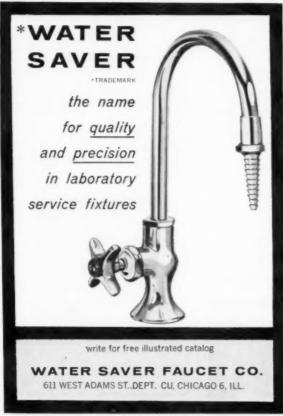
Haws EMERGENCY Eye-Wash provides instant first aid to prevent serious injury due to eye contamination

... by saving those vital seconds that can mean the difference between temporary irritation and permanent injury. Controlled streams flood the eyes, washing away searing chemicals and other foreign matter. See this model and others, as well as emergency drench showers, detailed in the Haws Safety Equipment Catalog. Write today to Haws Drinking Faucet Company, 1443 Fourth Street, Berkeley 10, California.



EYE-WASH FOUNTAINS

Since 1909 designers and manufacturers of drinking fountains and water coolers





THE MONROE COMPANY 77 Church St. COLFAX, IOWA



If that's the way *your* students describe their present food service, maybe it's time you investigated the services offered by The Prophet Co., one of America's oldest and largest food management service organizations.

Student acceptance of the school feeding program is vitally important. However, many colleges and universities are finding it increasingly difficult to provide students with a satisfactory food service. Menu monotony, poorly prepared foods, lack of variety and inadequate portions are among the major complaints. Only through the application of professional food service practices can these problems be solved — without increasing costs.

The Prophet Co. has over 42 years of experience in the field of food service. When you contract with us for the management and operation of your student food service, this vast store of practical experience and know-how are automatically applied to your operation. In addition, your administrative staff is relieved of all responsibility connected with student food service operation and management. Why not write today for more information about Prophet's college food service program?

THE PROPHET CO.

Complete FOOD SERVICE MANAGEMENT

707 Fisher Building

Detroit 2, Michigan

1418 N. Highland, Los Angeles 28, Calif.

Metal Waste Baskets in Three Key Colors



Available in green, gray and brown, the new United Metal Model #201 round waste baskets are made of rust resistant 26 gauge steel. United Metal Receptacle Corp., Jersey City 5, N. J. For more details circle 2791 on mailing card

Sound Film Projector for Fast, Efficient Operation

Forward and reverse gears are controlled by a single rotary switch, and the reverse mechanism automatically shuts off the sound track, eliminating any disturbance from garbled sound during reverse operation of the machine, in the new 16mm series 'E' sound motion picture projector developed by RCA. Radio Corporation of America, 30 Rockefeller Plaza, New York 20.

For more details circle #792 on mailing card.

Mineral Fiber Tile Provides Two-Hour Fire Protection

Two-hour fire protection is provided by Serene Protectone mineral fiber tile, re-

cently added to the Celotex line of Underwriter Laboratory fire-rated acoustical products, when used in combination with a two-inch concrete slab, bar joists and a Z-Runner suspension system. Protectone installations permit reduced insurance rates, according to the manufacturer, and provide sound absorption and fire protection at minimum cost. Celotex Corp., 120 S. La Salle St., Chicago 3.

For more details circle #793 on mailing card

Magnetic Cards Key to Memory File

A deck of 256 plastic magnetic cards, which preserve essential data, is utilized Card Random Access Memory, a



unique file which can instantly select any desired records from a maze of information not necessarily organized into alphabetical or numerical sequence. National Cash Register Co., S. Main & K Sts., Dayton 9, Ohio.

For more details circle #794 on mailing card.

"Electro-Stat" Desk-Top Copier Copies All Materials at Low Cost

The result of more than four years of research and development, the new Apeco "Electro-Stat" is a compact, automatic, desk-top copier, using an electrophotographic technic and requiring no liquids to produce black on white copies of any written, printed, typed, drawn or photo-graphed material at a cost of less than 3½ cents each. American Photocopy Equipment Co., 2100 W. Dempster St., Evanston, Ill. For more details circle #795 on mailing card.

Dri Vac Rinse Injector Dispenses Drying Agent

The small, economical Dri Vac Rinse Injector accurately dispenses a precise



amount of drying agent into the final rinse line of spray type dishwashing machines, eliminating the need for hand toweling. Economics Laboratory, Inc., 250 Park Ave., New York 17.
For more details circle #796 on mailing card.

. this Building, too, will have the



ENCER Vacusiot® System

Built-in Maintenance Economies

At this leading university, experience has demonstrated that Vacuslot . . . the installed vacuum cleaning system . . . quickly pays for itself in reduced maintenance costs. Already in use in 22 other buildings at M.S.U., Vacuslot systems have proved that they make possible:

Faster Cleaning-Dirt and litter collected by large dry mops is quickly whisked away. There's no time-consuming manual pick-up . . . no time lost in transporting bulky equipment.

Lower Maintenance Costs-More floor area cleaned per man hour means a smaller staff required.

Better Cleaning-All dirt and dust is carried off through the enclosed system . . . cannot recirculate into the air. There's this advantage, too: Vacuslot is a multi-purpose system, adaptable-without alteration-to conventional vacuum cleaning, boiler cleaning, even pick-up of scrubbing water.

Request Bulletin No. 153C



PORTABLE



Adjustable Fiber Glass Chair for Biology and Other Sciences

The Ajustrite mechanism, which permits the user to obtain any desired height from 18 through 26 inches by simply lifting the seat of his chair, is built into a new fiber plass chair developed especially for use in biology and other science rooms. Ajusto Equipment Co., Bowling Green, Ohio.

more details circle #797 on mailing card.

Movie-Mover Portable Table **Protects Projectors**

A special Movie-Mover Table, W 40 EC, provides added safety for RCA and



Eastman Kodak projectors, as it has a cut-out front that accommodates the low reel and permits the projector to be set back from the front edge and centered for maximum stability. H. Wilson Corp., 546 W. 119th St., Chicago 28.
For more details circle #798 on moiling card.

Filmed Program Offered for Biology Instruction

A filmed program, representing a new approach to biology instruction, consists of 66 films and 50 filmstrips of fundamental information, in a form that facilitates its integration with existing teaching patterns. Units of the series can be summoned individually to fit precise classroom requirements and range in length from 10 to 24 minutes. Encyclopaedia Britannica Films, 1150 Wilmette Ave., Wilmette, Ill. for more details circle #799 on mailing card.

Fold-Away Step Unit Is Attached to Book Truck

The Step-Book Truck is an easy-rolling, three-shelf mobile book truck with a handy



fold-up, two-step-stand attached to one end, making it a simple operation to return books to high shelves in various locations. Bro-Dart Industries, 56 Earl St., Newark 8, N.J.

For more details circle #800 on mailing card.

Modine School-Vent for Heating-Cooling-Ventilating

Heating, cooling and ventilating of classrooms are provided in the new School-Vent, based on the principle of controlling the air. The unique fulldamper system provides positive, constant and pinpoint room temperature control economically. The system includes a faceand-bypass insulated damper which directs air through and around the heating coil; an insulated anti-wipe damper which permits complete isolation of the coil, and indoor and outdoor dampers for a proper blend of fresh and recirculated air at all times. It adjusts automatically to changes in classroom temperature and fresh air requirements. School-Vent heats with steam or hot water and cools with central-source chilled water. It is avail-



may be installed and for heating, with cooling added later. Modine Mfg. Co., 1500 DeKoven Ave., Racine, Wis.

for more details circle #801 on mailing card.
(Continued on page 104)



Here is everything you want for beauty, long life, low maintenance and lowest annual cost in student and faculty quarters.

Seng institutional bed frames are wonderfully adaptable-singles, double, twin-types and studio . . . low, medium and high bases . . . casters and glides for every type of floor covering . . . every needed accessory and style available.

Building or up-grading, look to Seng for the best in bed frames.

 Ask your contract supplier or write for new institutional folder.



Chicago and Los Angeles General Office: 1450 N. Dayton St., Chicago 22



Save on Soap

Up to 350 people can wash hands with one 11/4 oz. bar

FRANKLIN Soap Grinder-Dispenser uses hard-milled soap on positive micro-threaded feed rod to control amount of soap dispensed. Easy to refill. Lock for maintenance men prevents tampering. Stainless steel cutting disc positioned perfectly against soap.

Stop in grinding knob at bottom discourages excess soap use, prevents waste.

Soaps available are pure castile, G-11 (Hexachlorophene) for aseptic use, and Borax soap for grimy hands.

72 bars 114 oz. equal to 125 gals. of liquid soap, 125 lbs. powdered soap, permit maximum storage in minimum space.

SMALL, beautifully finished dispenser suits all washrooms. Originated and patented in Europe and used in all important countries. Now made in U.S.A. under U.S.

Write for description and prices to

AFFILIATE OF FRANKLIN METAL PRODUCTS

12 E. KINZIE ST., CHICAGO 11, ILL.

All-Purpose Sunroc Fountain Is Wall-Mounted in Small Space

The Sunroc Model SR-WF all-purpose, wall-mounted stainless steel fountain sup-



plies uncooled water, or drinking water cooled by its self-contained cooling unit. Sunroc, Div. SR, Glen Riddle, Pa. For more datails Circle #802 on mailing card.

Telephone Ringing Signal Is Pleasing Chime

A pleasing telephone ringing signal, activated by an incoming call and emitting a single bell tone at the beginning, followed by a pleasing chime at the end of the cycle, repeated at three-second in-tervals, makes up the new "Telchime" Series 1310. Wheelock Signals, Inc., Long

For more details circle #803 on mailing card.

Magnetic Control Board Serves Many Purposes

Designed to save time and increase efficiency in handling records, the new Mag-



netic Control Board has instantly changeable magnetic devices which are visible to all. Methods Research Corp., Visual Control Systems, 105 Willow Ave., Staten Island 5, N.Y.

For more details circle #804 on mailing card.

Plastic Dish Racks Added to Raburn Line

The Raburn line of all-plastic racks for handling cups, plates and other dishes during automatic dishwashing operations, and for service, recently added a small sized rack for washing cups, model 5000 lightweight plate rack with maximum capacity, and a utility rack requiring no carriers or inserts. Raburn Products, Inc., 350 N. Clark St., Chicago 10.

For more details circle #805 on mulling card.

Melamine Dinnerware Has Decorated Cups to Match

Decorated cups, with the pattern molded in so that they may safely be washed in automatic machines, are now available to match the four melamine dinnerware patterns in the Regal Decorated line. Plastics Mfg. Co., 2700 S. Westmoreland Ave., Dallas 33, Tex.

for more details circle #806 on melling cord.



CUSTOM-LIN Alussiaccose HAT and COAT RACKS

Tailored to fit any given open or closetted wall area. Smart in design and modern in "clear", "gold" deep etched anodized finishes and combinations. Quality built—closed-end aluminum tubing, rigidly held in cast aluminum brackets that are adjustable for height in dovetailed mounting extrusions. Brackets also adjustable to any desired centers.



Smith-Corona Photocopy Line **Includes Three Machines**

The new Smith-Corona machines, Vivicopy 9, 12 and 14, copy anything on sensitized white standard weight paper and help to simplify copy needs of colleges. Smith-Corona Marchant Inc., 410 Park Ave., New York 22.

For more details circle #807 on mailing card.

"Tumble King" Is Safe Rebound Tumbler

The "Tumble King," a completely reengineered and redesigned rebound tumbler, has superior safety features which include its unique octagonal shape, its



special construction with carbon steel, high recoil springs arranged centrifically around the frame to connect with the mat, and the guard cushion all around the frame, making it impossible for a tumbler's body to strike metal. MacLevy Sports Equipment Co., Inc., 189 Lexington Ave., New York 16.

details circle #808 on mailing card. (Continued on page 106)



The growth of our progressive educational institutions must be accompanied and supported by expansion of facilities soundly planned and designed for economy, efficiency and adaptability

CHAS. T. MAIN, INC.

80 FEDERAL ST., BOSTON 10, MASSACHUSETTS

SPECIALIZED ENGINEERING FOR INSTITUTIONS

PLANNING, DESIGN AND SUPERVISION OF CONSTRUCTION OF TECHNICAL FACILITIES, AND UTILITY AND SERVICE SYSTEMS



3 seconds ago this conference room did not exist!

You, too, can make a conference room appear or disappear this quickly. All you need is this new HOWE folding table and a little floor space.

Ever increasing costs and constantly changing needs have turned many efficiency-minded firms to multi-purpose space use.

The new HOWE folding conference table, the Mobil-Matic "12," was designed with this in mind. The Mobil-Matic "12" is functional in every detail. It seats 14 comfortably. The counterbalanced spring tension and synchronized action of its patented understructure make it easy and safe to open or fold in just 3 seconds. Folded, the Mobil-Matic "12" is rolled away smoothly on 4" swivel casters. Because it measures just 14" folded, it stores against the wall, barely protrudes into the room.

For all its functionalism, the HOWE Mobil-Matic "12" sacrifices nothing in the good looks department. Its top and edge are marproof, patterned Formica. (For those who prefer, an anodized aluminum-edge model is also available.)

To keep the unit bright and fresh-looking, the entire understructure is plated with rustproof Cadmium.

Custom Division

HOWE FOLDING FURNITURE, INC. 1 PARK AVENUE, NEW YORK 16, N.Y.

you'll be sent illus	in and mail the hastrated literature from HOWE folding	ce on the	Mobil-	
Name				CUB-91
Firm				000-71
		one	State	

When you have to please the experts



Architects, Schwarz & Van Hoefen; Consulting Engineers, Ferris & Hamig; Air Conditioning Contractor, D. F. Edwards Heating Co.

When a group of engineers decide to build their own house there are certain special incentives for coming up with complete answers to all of the problems. The new Engineers' Club of St. Louis purifies air with activated charcoal.

Potential odor loads in high occupancy areas had to be solved for the comfort of the members and guests. Ferris & Hamig designed separate air handling systems, one for the auditorium, the other for the recreation area, fellowship hall and offices. Each system contains Barnebey-Cheney activated charcoal air purification cells. Air recirculated through the system is returned to occupied areas fresher than outside air and at a fraction of the cost of heating or cooling.

Write for Bulletin T-375 or give us the details of your application and we will supply specific data and samples.

Barnebey-Cheney, Columbus 19, Ohio.

activated charcoal air purification

Barnebey Cheney

Steel Laboratory Furniture Added to Borroughs Line

The result of an intensive market study, the new Borroughs line of heavy duty laboratory equipment, built of steel with resistant tops, features quality with at-



tractive price. The Borroughs Mfg. Co., 3002 N. Burdick, Kalamazoo, Mich. For more details direle #809 on mailing card.

Cenco-Miller Devices Help in Teaching Physics

Cenco-Miller laboratory demonstration devices, developed by an instructor to help in teaching physics, include two to demonstrate changes created by thermal energy, and two that demonstrate rotational forces. Central Scientific Co., 1700 Irving Park Rd., Chicago 13.

For more details circle #810 on mailing card.

Folding-Door Hardware Has Bi-Fold Action

Non-binding opening and closing action and bi-fold action for access way, assuring smooth, quiet operation of room dividers or folding closet or storage doors, are features of the new Stanley multiple folding-door hardware set No. 2995. Stanley Hardware, New Britain, Conn.

For more details circle #811 on mailing card.

Low-Cost TV Tape Recorder Plays Back Both Image and Sound

The new Ampex VR-8000 television tape recorder, designed for closed-circuit application in education, is a low-cost unit that can record both image and sound and play it back at any time. It is expressly designed to provide an economical, flexible and reliable means of storing and reproducing televised material,



and also offers a practical method for multiplying the value of an instructor through TV tape recording of lessons and other material, and for extending the effectiveness of teaching via closed-circuit television. Material recorded may be live production, film, slide, incoming broadcast or from another VR-8000. Ampex Video Products Co., P.O. Box 3000, Redwood City, Calif.

For more details circle #812 on mailing cord.
(Continued on page 108)

College Revenue Bond Financing With Imagination and Initiative

Over the past several years, we have initiated, managed or acted as a major underwriter of every type of college and university financing involving revenue bonds.

Our imagination and initiative in

this field of financing has established White, Weld & Co. as the leading manager and principal underwriter with a total of 30 successful issues. Here are a few examples taken from our record of such financing totaling \$117,000,000.

YEAR	INSTITUTION	FINANCING	PURPOSE	STA	TUS
1954	University of Texas (Austin)	\$3,402,000	Dormitory Bonds	(N)	Manager
1955	University of Texas (Galveston)	\$2,512,000	General Revenue Bonds	(C)	Manager
1956	Teachers College Board State of Illinois (Charleston)	\$2,250,000	Dormitory-Union Building Bonds	(N)	Manager
1957	University of Missouri (Columbia)	\$3,000,000	Dormitory Bonds	(N)	Manager
1958	Pennsylvania State University (State College)	\$12,000,000	First Mortgage Series B Bonds	(N)	
1959	University of Illinois (Champaign)	\$7,750,000	Assembly Hall Bonds Student Fee	(P)	Manager
1960	Louisiana State University (Baton Rouge)	\$3,500,000	Union Building Bonds	(C)	Manager
1961	Teachers College Board State of Illinois (Bloomington-Normal)	\$4,000,000	Dormitory Bonds	(C)	Manager
	(N) Negotiated (C) Compet	itive bidding (P) Private placement		

We urge college and university administrators faced with present or future programs for new construction and major improvements to existing facilities to consider Revenue Bond Financing. We suggest, too, that our

broad experience in this type of financing can be most helpful in solving the problems confronting your institution. We will give immediate attention to your request for a meeting—whether to be held at your campus or in our offices.

Write Municipal Department

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NEW YORK • BOSTON • PHILADELPHIA • MINNEAPOLIS SAN FRANCISCO • LOS ANGELES • HARTFORD • NEW HAVEN



Automated-Dishwashing System Has Klenztronic Controller

The simple, rugged, electronically controlled Klenztronic Controller and the new type liquid Klenzmate Detergent which is fed automatically, thus preventing waste and error, make up the Klenzmation Automatic Dishwashing System. Klenzade Products, Inc., Beloit, Wis.

Autoscore Teaching Machine Complements Personal Teaching

Developed to supplement the teaching of material which depends upon memory and practice after the ground work is laid by the teacher, the Autoscore is a small, lightweight and relatively inexpen-



sive machine that serves as a private tutor to the pupil. Question and answer cards in spelling, arithmetic and word meaning permit pupils to drill without taking the time of the teacher who is released for more creative work in the classroom. Astra Corp., 31 Church St., New London, Conn.

"Transparent Man" Is Life-Sized and Detailed

A life-sized transparent plastic figure of the human body features the entire skeletal structure, the major nerve supply, the major blood vascular system and the body viscera, with lights to demonstrate inde-



pendent organs. Arin Testaguzza Co., 3658 Drahner Rd., Oxford, Mich. For more details circle #815 on mailing card.

Magnetic Tape Added to Califone Line

Rheem Califone announces the addition of ten acetate or mylar-base magnetic tapes designed to meet the highest fidelity recording requirements, and featuring full range frequency response, low print-through, freedom from distortion, exceptional strength and durability. Rheem Califone Corp., 5922 Bowcroft St., Los Angeles 16, Calif.

"Little Store Dispenser" Supplies School Necessities



A special convenience after bookstore hours, the coin-operated, self-service "Little Store Dispenser" provides students with paper, pencils and pens. School Supply Service Co., 12801 S. Halsted St., Chicago 28.

For more details circle #817 on mailing card.

Win-Gard Floor Finish Practically Eliminates Bacteria

The self-sanitizing action of Win-Gard non-slip floor finish helps prevent the growth of dust-borne bacteria and reduces its spread by 99.6 percent. Windsor Wax Co., Inc., 611 Newark St., Hoboken, N.J. For more details circle #818 on mailing card.

Mobile Maintenance Station Has Vacuum Cleaner



The Cartavac mobile maintenance service station has a built-in vacuum chamber which cleans erasers and dry mops, and can be removed for use as a vacuum or blower. M. D. Stetson Co., 64 E. Brookline, Boston 18, Mass.

For more details circle #819 on mailing card.

Sun Louvers

for New or Existing Buildings

Lumishade Fixed Sun Louvers provide attractive appearance with protection from the glare of the sun and from storms when installed in new or existing buildings.



Mapes Industries, Inc., P.O. Box 2067, Lincoln, Neb. For more details circle #820 on mailing card. (Confinued on page 110)

DORMITORY LIGHTING

Developed to Your Specifications



MODEL 312

Our Most Popular Dormitory Desk Lamp

Combines low cost and low upkeep with a simple pleasing style. At no obligation, test the rugged construction of this lamp in one of your dormitories.

See how it eliminates repairs.

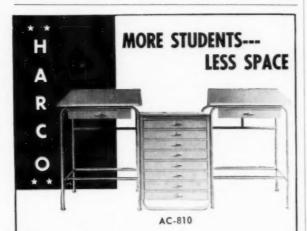
Adjustable Fixture specialists will custom-design installations to fit the specifications of your dormitory lighting plan. Or, if you wish, you may select stock lamps from our complete line of lighting fixtures. Free standing or attached to desk, wall or bookshelf. Send for our free bulletin, No. 300, for more information on our line of desk and study lamps.

Adjustable FIXTURE CO.

AJUSCO VIVALIALI TO

Established 1911

100-104 E. MASON ST., MILWAUKEE 2, WIS.



"Board and T-Square" stored in its individually locked 20½ x 26½ x 2½" drawers. Accommodates more students with greater convenience. Extra boards rest on rails with ample space below for instruments in each drawer. "Quick lock handle adjustment" offers fast self-locking positioning of tops. Also available as a dual model.

- Horango

Over 25 styles and sizes of chairs and stools available. Equipmed with the famous "Lift-Lok" mechanism.



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TAS BRASS & BRONZE WORKS, INC.

128 MAGNOLIA AVE., WESTBURY, L.I., N.Y.

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BEAUTY . . . stately columnar form; straight, slim trunk; large-leafed rich green foliage; symmetrical limb and twig pattern for year-around elegance.

- STRENGTH . . . upslanted branches to sturdily withstand wind and weather: deep down-growing roots for firm anchorage; vigorous resistance to fungus or virus disease and to drought.
- ADAPTABILITY . . . compact struc-ture and dependable uniformity for matched landscaping effects: neat, graceful look for specimen plantings; narrow, upright shape permits close planting for windbreak or enclosure.
 - UNIQUE SUITABILITY FOR STREET PLANTING . . . economy STREET PLANTING . economy as to price, planting cost, and main-tenance requirements; deep, narrow root system to avoid sidewalk cracking; slender, rising form without overhang to prevent traffic obstruction.

Augustine Ascending Elms are ideal for your campus ... and guaranteed! THE VERY FINEST GROWN FOR MORE THAN 40 YEARS!

- RAPID GROWTH . . . just 5 years from sapling to tree.
- CONVENIENCE . . . slender, vertical contour, long trunk and non-surface rooting habit permit grass to grow freely right to trunk base; reproduction by grafting makes the Augustine Elm practically seedless and prevents springtime litter; pruning is reduced to minis can be transplanted easily and without setback.

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Tests conducted by Scientists lead us to believe that this tree has a very strong resistance to elm disease. The experience of thousands of satisfied people who own them supports this finding. We therefore make this guarantee to our customers: any Augustine Ascending Elm Tree tafter proper carel which dies within three years from the date of your purchase because of any virus or fungus will be replaced FREE by another tree of the same size as when purchased, by Augustine Ascending Elm Associates, Inc.

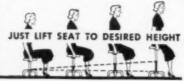
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CHAIRS ... STOOLS



What could be simpler or cleaner? Just lift the seat to the desired height. No dirty knobs, wheels or tools to handle. The Ajustrite patented adjusting mechanism is patented adjusting incertains is the reason hundreds of thousands of Ajustrite Chairs and Stools are in service today. It's the oldest, the simplest, the fastest. And the most trouble-free—that's why we guarantee it for 10 years!

30-DAY FREE TRIAL No obligation. Prove to yourself the Ajustrite advantages in utility, comfort and economy.

32 Models for Factories . Schools . Laboratories . Hospitals . Offices



AJUSTO EQUIPMENT CO. Bowling Green, Ohio

Literature and Services

- Bulletin 401L on the Lab-Flo Model BL-4010-1 Needle Valve Hose Cock for fine control of rare gases and standard services on laboratory furniture, is offered by T & S Brass & Bronze Works, Inc., 128 Magnolia Ave., Westbury, N.Y.
- A new 92-page catalog, Section 5-Wood Educaional Laboratory Furniture, 1961 Edition, for secondary schools and junior colleges, designed as a planning aid with dimension drawings and specifications, is available from Kewaunee Mfg. Co., Adrian, Mich., and its affiliate, Kewaunee Technical Furniture Co., Statesville, N.C.

For more details circle #822 on mailing card.

· Descriptive information on the line of folding tables, chairs and trucks for institutional use, manufactured by Howe Folding Furniture, Inc., 1 Park Ave., New York 16, is presented in a 16-page catalog, which includes a section on how to select the right table truck to meet

each individual problem.

For more details circle #823 on mailing card.

- Developed especially for the food service industry by the Institutional Div., Campbell Soup Co., Camden 1, N.J., the new booklet, "20 Cost-Cutting Ideas for Serving Different Soups," contains a complete guide for appropriate soup gar-nishes, descriptions of distinctive soups that can be created by adding unusual ingredients, and suggestions for soup combinations and low-calorie menus.

 For more details circle #824 on molling cord.
- · A new six-page, full-color bulletin pubblished by the Jamison Cold Storage Door Co., Hagerstown, Md., describes the company's lightweight plastic cooler and freezer doors, easily handled by women employes, and available in five colors. more details circle #825 on mailing card.
- · Technical data for administrators, architects and engineers on thermal efficiency co-efficients for various window shading devices, light transmittance values and noise reduction co-efficients, are contained in a booklet on Fiberglas draperies pubblished by Fenestra Fabrics, Inc., 620 N. Almont Drive, Los Angeles 46, Calif. For more details circle #826 on mailing card.
- · Specifications, operation and construction of the Projecto-Lite overhead projector are discussed in a colorful brochure, entitled "A New Pattern For Projection, available from the Ozalid Div., Aniline & Film Corp., 72 Corliss Lane, Johnson City, N.Y.

for more details circle #827 on mailing card.

- · A new bulletin on Calgon Instant-Dri, a solid form rinsing agent that handles easily and eliminates water spotting, is available from the Calgon Co., Hagan Center, Pittsburgh 30, Pa. For more details circle #828 on mailing card.
- "Taste Tempting Recipes for good menu planning" are presented by the Processed Apples Institute, Inc., 30 E. 40th St., New York 16, ready to mount on five by eight-inch cards.

For more details circle #829 on maili (Continued on page 112) alling card.



LOOKING FOR SOMEONE?

Someone to fill a vacancy in your staff—a Business Manager—Superintendent of Buildings and Grounds—Purchasing Agent—Director of Food Service and Dormitories?

Or maybe you are thinking about making a change.

If so, consider placing a "Classified Advertisement" in the next issue of College and University Business.

It costs but 30c a word (minimum charge of \$6.00) to place your story before the administrative officers of colleges and universities in this country and Canada.

"Classified Advertisements" are working successfully for others—they can do the same for you.

WRITE TO: Classified Advertisements

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Without Centralized Disposal...even a new building is obsolete!

Centralized disposal in multi-story buildings is more than a convenience—it assures yearly savings for the life of the building. Wilkinson Chutes are designed for the centralized disposal of soiled linen, rubbish, dust, waste paper, garbage, or any other material that can be dropped without damage from an upper floor.

See our catalog in Sweet's Architectural File



Wilkinson "B" Labeled Door. Designed for Hand or Foot Operation.

In college and dormitory buildings, Wilkinson waste paper and rubbish chutes eliminate excessive janitorial help by efficient central disposal.

WILKINSON CHUTES, INC.

619 East Tailmadge Ave., Akron 10, Ohio



 How the Giant-Vac, a basic power unit to which vacuum, blower or hose attachments are mounted for heavy duty vacuum for removing debris, may be used in maintenance of playing fields, grounds and other large areas, is discussed in a folder available from Giant-Vac Mfg. Co., Div. of H. L. Diehl Co., South Willington, Conn.
For more details circle #830 on mailing card.

· A new sound and color 16mm motion picture, "Feel Free," concerned with correct machine dishwashing procedures, is designed as an educational aid in food service departments, and is available for showing through DuBois Chemicals, Inc., 634 Broadway, Cincinnati 2, Ohio. • A colorful new pamphlet headed "When those rush jobs get bottled up" is available from Ditto, Inc., 6800 N. Mc-Cormick Rd., Chicago 45. The functional qualities of the D70 electric duplicator are presented in capsule form. ore details circle #832 on mailing card.

 A 16mm sound movie in color, showing three new concepts in school design, offered without charge to school administrators, board members, architects and others concerned with school planning. Entitled "Blueprint for Better Schools," the 22-minute film, showing various new schools where wood has been used successfully, is available through the National Lumber Manufacturers Assn., 1319 18th St., N.W., Washington 8, D.C. For more details circle #833 on mailing card.

• New literature covering the expanded line of cabinets manufactured by Neumade Products Corp., 250 W. 57th St., New York 19, for storing language laboratory tapes, as well as records of all sizes, includes data on the extended color coded indexing of the welded steel units, and discusses how record storage can now be combined with tapes for a comprehensive filing system.
For more details circle #834 on mailing cord.

 A variety of special menus, table settings, recipes and party ideas for quantity feeding planners is presented in a new 80-page guide entitled "Special Occaoffered by the Food Service Director, John Sexton & Co., P.O. Box JS, Chicago 90. Outstanding special events serving plans are presented from 18 prominent food service heads.

 A revised, up-dated edition of Booklet 801, "Ceramic Tile for Swimming Pools," is now available from American Olean Tile Co., 1000 Cannon Ave., Lansdale, Pa. For more details circle #836 on mailing card.

for more details circle #835 on mailing card.

• Brochure 361AO describes and illustrates 47 of the over 500 Gunter Herrmann transparent mathematical models available from LaPine Scientific Co., 6001 S. Knox Ave., Chicago 29, to demonstrate concepts of plane, solid, and analytical geometry, and related branches of mathematics and mechanical drawing. For more details circle #837 on mailing card.

· A 395-page catalog listing the complete selection of laboratory instruments, apparatus and equipment available from Labline Inc., 3070 W. Grand Ave., Chicago 22, includes data on products of the new divisions of the company.

For more details circle #838 on mailing cord.

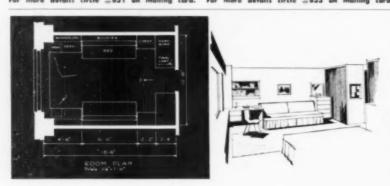
· "Safety and Rebound Tumbling," available from Nissen Trampoline Co., 930 27th Ave. S.W., Cedar Rapids, Iowa, at one dollar per copy, presents data for including the sport in school programming.
For more details circle #839 on mailing card.

• "A Significant New Development in Fire-Retardant Ceilings" is the title of a 12-page booklet, printed in color, and describing a new fire-protective acoustical lay-in system developed by Armstrong Cork Co., Lancaster, Pa.

For more details circle #840 on meiling curd.

• "Fire Insurance Savings with Full Fire-Resistive Roof Decks" is the title of a 16page booklet offered by the Flexicore Co., Inc., 1932 E. Monument Ave., Dayton 1, Ohio, which describes the factors that affect fire insurance rates and the savings that can be realized by consulting with a fire insurance agent during the planning of new buildings.
For more details circle #841 on mailing card.

• The line of Norelco Industrial Sound Systems and Components, for use in auditoriums, gymnasiums and other areas, is described in a new brochure available from The North American Philips Co., High Fidelity Products Div., 230 Duffy Ave., Hicksville, N.Y. For more details circle #842 on mailing card.



Chances are **1000** to **1** that this plan **WON'T** fit your requirements!

Out of over a thousand dormitory furniture plans on which we have worked there has been only one case where two institutions adopted exactly the same student room furniture layouts and designs. This is why Sligh-Lowry Contract Furniture Company has no stock plans or furniture units but is constantly called in to consult with the architect and the college administrators and residence halls directors to assist in developing room layouts and designs and specifications for pre-built, pre-finished, built-in and free-standing furniture for dormitory rooms to best suit each individual institution's needs, wishes and budget. The above illustrated plan exactly met the requirements of a leading mid-western university.

Let us help to develop one that will completely meet yours. Send for our comprehensive Dormitory Furniture Planning Manual at no cost to college and university officials or architects.



CONTRACT FURNITURE COMPANY

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(2) On products described in "What's New" in this issue

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Here are the most popular crackers in all America . . . NABISCO. When your customers see an assortment of NABISCO Individual Service Packets in a big, friendly cracker basket, they know that you know how to please their taste and appetite. NABISCO'S Individual Service Packets offer top quality products, always delivered fresh from our ovens to you and kept fresh in attractive moistureproof cellophane packets. Easy, economical to serve, cuts food cost—no waste of time, no waste of crackers. Just over a penny per serving! ®

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New addition to the beautiful campus of Miami University, Oxford, Ohio, is the School of Business Administration building, Laws Hall. In keeping with today's standards of comfort and efficiency, the entire building is air conditioned and equipped with a Johnson Pneumatic Control System.

All classrooms, offices, and the auditorium are individually controlled by Johnson thermostats to provide an ideal thermal environment for teaching and learning.

Engineered for economy as well as for comfort, the system automatically provides for night set-back of the multi-zone air conditioning units, thus assuring maximum savings on after-hours heating and cooling costs. Other economy features include weather-compensated control of the hot and chilled water supplied to the perimeter fan coil units.

For 45 years Miami University has relied on Johnson Pneumatic Control Systems for efficient, money-saving temperature control. When you build or modernize, be sure to discuss the advantages of a Johnson System with your architect, consulting engineer or local Johnson representative. Johnson Service Company, Milwaukee 1, Wisconsin. 110 Direct Branch Offices.

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